



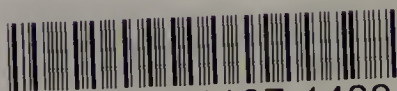
**THE
UNIVERSITY LIBRARY**

LEEDS UNIVERSITY LIBRARY

Classmark:

COOKERY
A CAS

THE



3 0106 01107 1429

THIS EDITION,
*being specially prepared for Subscription, is not
obtainable through the general Booksellers.*



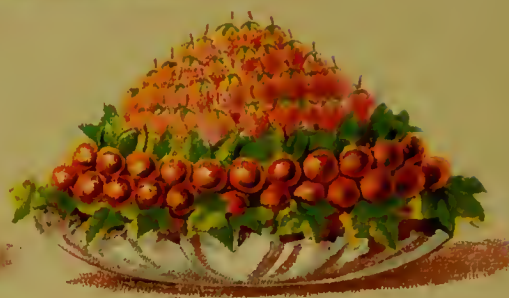
CASSELL & COMPANY, LIMITED.



1.



2.



3.



4.

1. STAND WITH PEACHES, GREENGAGES, RED PLUMS, & PINEAPPLE
 2. DISH OF RED, BLACK, & WHITE CURRANTS. 3. DISH OF CHERRIES & STRAWBERRIES
 4. CENTRE-PIECE WITH MIXED FRUIT.

CASSELL'S
BOOK OF THE HOUSEHOLD

A

Work of Reference

ON

DOMESTIC ECONOMY

VOLUME III.

SPECIAL EDITION

WITH COLOURED PLATES

CASSELL AND COMPANY, LIMITED

LONDON, PARIS & MELBOURNE

ALL RIGHTS RESERVED



UNIVERSITY
LIBRARY
LEEDS

CONTENTS.

	PAGE		PAGE
THE CHILDREN:		THE FAMILY LIFE:	
An Infant's Requirements : Care before Birth— Dress—Rational Clothing	29	Recreation : its Philosophy and Necessity— Moderation — Variety — Companionship — Exercise for the Sick and Aged—Rest	1
Infancy : Food and Sleep—The Mother's Milk —Method in Nursing—Artificial Food—Quan- tity—Infants' Bottles—Purity of the Milk— Weaning—Sleep—Soothing Drugs—Manage- ment of Sleep	122	Athletic Sports and Pursuits : Evils of Excess — Volunteering — Cricket — Football — La Crosse—Base-ball—Hare and Hounds—Row- ing—Swimming—Skating	71
Infancy : Fresh Air and General Management— Necessity for Fresh Air—Precautions—Per- ambulators and Carriages Minding a Baby —Learning to Walk—Cleanliness—Washing an Infant—Teething	178	Outdoor Games and Exercises : Lawn Tennis— Battledore and Shuttlecock—Badminton— Croquet—Archery—Hockey — Hurley — Golf —Bowls—Quoits—Curling	142
Childhood and the Nursery : Dress—Food— Cleanliness and Bathing—Sleep—Bedclothes Fasteners—The Nursery	204	Cycling : Choosing a Machine—Prices—Saddles —Learning to Ride—Tricycling for Ladies— Children—Care of the Machine—Benefits of Cycling—Dress—Tours	224
School Life : Lessons and Infancy—The Kinder- garten System — Boarding Schools — High Schools and Public Schools—Over-pressure— Mistakes of Parents	258	The Annual Holiday (I.) : Its Benefits—Parents and Children — Date—The House at Home— Preparations—Luggage—The Journey	297
Physical and Moral Training : Gymnastics— Food and Dress—Exercise—Attitudes—The Eyes—Order and Self-help — Domestic Train- ing—Sewing—Money—Moral and Religious Training—Religious Impressions and Habits —Bible Lessons—Moral Training	365	The Annual Holiday (II.) : The Seaside—Sea- Bathing — Seaside Housekeeping — Country Holidays and Tours—Indoor Occupation— Rest and Health	349
THE DAILY FOOD :		THE GARDEN :	
Breakfast, Luncheon, and Supper Dishes : Bacon—Eggs—Kidneys—Devised Dishes— Cured Fish—Sausages—Potted Meat—Cold Delicacies—Sandwiches—Suppers for Parties —Boned Turkey—Gallantine—Supper Sweets	18	Gardening for January : Paths and Lawn— Beds and Borders—Hardy Climbers—Shrubs in Winter—Kitchen Garden and Fruit Trees —The Greenhouse—Preparations for Potting Plants—Lists for Early Spring	38
Boning and Larding : Boning—Boned Turkey— Larding and its Uses	97	Gardening for February : Pruning Shrubs and Trees—Paths and Turf—Hardy Plants in the Open—Spring Bulbs—Lists of Seeds for the Spring—Soils and Borders for Vines—Toma- toes—Rockery and other Work under Glass	115
How to Make Dishes Look Nice : Importance of Appearances—Breakfast and Breakfast Dishes —Soups—Fish—Entrées and Joints—Vege- table Dishes—Cold Entrées—Caramel	186	Gardening for March : Roses—Shrubs—Lawn— Bulbs—Sowing Hardy Annuals—Herbaceous Plants—Frames—Fruit Trees—Herbs, Salads, and Vegetables—Watering Plants in Pots— The Greenhouse	153
Ornamenting Sweet Dishes : Gâteau—Blanc- Mange—Puddings—Whipped Egg—Jams— Fruit Dishes—Confectionery—Use of Piping	249	Gardening for April : Cleaning—Hardy Plants, Herbaceous Plants, and Annuals—Insect Pests—The Lawn—Bedding Plants—Fruit Trees and Kitchen Garden—Greenhouse and Conservatory	215
Preparing a Dinner for a Party : Fashions— Simplicity—Components of a Dinner—The Servants—Forethought—Order of Courses— Consideration for the Cook — Cutlery — Failures—Variety—Wines	311	Gardening for May : The Paths and Lawn— Staking and Tying—Roses, Annuals, and Dahlias—Wet Weather—Preparing Beds and Borders—Preservation of Old Bulbs and Plants—Bedding-out Plants—Window Boxes —Hollies—Kitchen Garden—Greenhouse and Vinery	267
Marketing and Purchasing of Food : Real Mar- keting—Ordering Meat—Poultry and Game —Vegetables—Groceries—Cash and Credit —Adulteration	358		

THE GARDEN (<i>continued</i>):	
Gardening for June: Gathering or Cutting of Flowers—Care of Various Plants and Flowers, and of Flower Beds—Vines and Thinning of Grapes—Greenhouse—Chrysanthemums—Fruit and Kitchen Garden	321

HEALTH AND DISEASE:	
Fevers and Contagion: Contagion—Notification—Preventive Insurance—Scarlet Fever—Measles—German Measles—Whooping Cough—Mumps—Chicken Pox	56
Typhoid Fever and Small-Pox: The Contagion of Typhoid—Symptoms—Small-Pox and Vaccination	134
Constitutional Diseases—Rickets—Tuberculosis—Scrofula—Enlarged Glands—Gout—Gravel—Rheumatism—Lumbago—Ague	196
Constitutional Disorders (II.): Obesity—Hæmorrhage—Excessive Perspiration—Debility—Anæmia—Bright's Disease—Diabetes—Ophthalmia—Trichinosis	277
Skin Diseases: Causes—Patient to be Treated, not a Disease—Acne—Baldness—Boils—Carbuncle—Eczema—Freckles—Itch—Nettle-rash—Psoriasis—Ringworm—Shingles	341

HOUSEHOLD DECORATIVE ART:	
Imitations of Stained and Ornamental Glass: Glacier Work—Vitremanie or Diaphanie—Renaissance Work—Embossing and Etching—Patchwork—Glass Painting	45
Feather Work: Skinning and Stuffing—Feather Screens—Dressing Feathers—Feather Ornaments—Feather Designs and Pictures—Feather Articles—Sprays and Trimmings	102
The Elements of Embroidery: Design—Materials—The Frame—Tracing—Stitches for Naturalistic Embroidery—Conventional Embroidery and Stitches—Geometrical Embroidery and Stitches	166

HOUSEHOLD DECORATIVE ART (<i>continued</i>):	
Embroidery for Home Decoration: Curtains—Coverlets—Embroidery in Sitting-rooms—Screens—Mantel-borders—Piano—Chairs—Table-cloths—Cushions and Stools—Chair-backs—Ironing and Washing Embroidery	236
Burnt-wood Engraving: Materials for Scorch or Poker Work—Tools and Method—Examples—Scorching upon Leather	287
Ornamental Nail-work: Examples	293
Skeleton Leaves: The Natural Method—Chemical Method—Bleaching—Mounting for Bouquets, Crosses, &c.	331
Fir-conc Work: Materials—How to Ornament Picture-frames—Brackets—Baskets	338
Festive Decoration: Paper Roses—Curtains—Trophies—Floral Decoration—Table Decoration—Festive Lights	376

THE HOUSEHOLD MECHANIC:	
Elementary Carpentry: Making a Work-bench—Mortising—Planing-up a Board—Kinds of Timber—Shelves—A Bookshelf—Screws—Mending a Floor	64
Windows and Glazed Work: Glass—Mending a Window—Blinds—Repairing Sash-lines—Loose Sashes—A Cueumber Frame	305

THE WARDROBE:	
Washing and Washing Appliances: Washing Machines—Steam Washers—Wringers—The Copper—Drying Apparatus	8
Washing at Home: Soap—Stains—Chemical Powders—Soaking the Clothes—Flannels and Coloured Things—White Fabrics—Boiling—Blueing—Drying—Washing with Paraffin—New Ways of Washing—The Washing of Special Articles	86
Ironing, Starching, and Getting-Up: Ironing Table and Boards—Irons and Heaters—Starch—Starching—Ironing	152



1.



2.



3.



4.

1. ROAST SADDLE OF MUTTON (GARNISHED)
 2. ROAST LEG OF MUTTON. 3. ROAST QUARTER OF LAMB.
 4. ROAST SIRLOIN OF BEEF (GARNISHED).





ROSES



PORTION OF THE ROCKERY AT THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, CHISWICK.

CASSELL'S BOOK OF THE HOUSEHOLD.

RECREATION.

THE absolute necessity for regular and periodical recreation, with the view of sustaining the body in health, has long been recognised by the medical profession, and is, moreover, felt by everyone. Physiologists and anatomists are agreed that particular divisions of the brain preside over particular actions of the body, and exercises of the mind. Some have even gone so far as to make a map, so to speak, of the great nervous centre, and profess their ability to point out the portion thereof which rules and guides each separate function.

To trace the nerves of voluntary motion, and those of the senses, such as sight, taste, or hearing, and even the nerves that govern involuntary or organic life—that life which goes on independent of our volition in the great internal organs of the body, whether we are awake or whether we are sleeping—may be a task of comparative ease to the anatomist; but his difficulties begin in earnest when he attempts to lay the point of his scalpel on certain divisions of the brain, and say, *This* is the centre of musical power; this of the mathematical faculty; in this region dwells the genius of poetry; in this the gift of prose composition; and so on. There is a difficulty in doing this, with any degree of accuracy, which is almost insurmountable. At the same time, all knowledge and all experience point to the indubitable general fact that it is so. As certainly as the radial nerve governs the actions and movements of the writer's thumb, fore and middle fingers, so certainly is the mind that thinks out and composes this paper guided by one particular portion, or it may be more than one, but strictly particular portions of the brain working in unison; and, moreover, no other portions of the brain could be so employed. If, again, the writer shall presently lay down his pen and take up his guitar, the music he elicits therefrom is due to forces emanating from a region of the great nerve-centre distinct from that which commands the flow of literary composition;

so that after playing for, say, an hour, *this latter region is rested*. It has been idle for a time; it is less congested; the nerve-cells have been renewed; the region has been "nutrified;" and when the writer recommences work, he finds his ideas flow not only faster, but in a purer and more healthful stream.

It is evident enough, then, that if we would have all regions of the brain healthful, these regions must take watch and watch, as sailors do at sea, or as stage-horses do in relays. Were the same sailors kept at work all the weary four-and-twenty hours, or the same horses kept on the drag for all the mileage of a long journey, how thoroughly fagged out and beaten they would be! Without, then, dipping an inch more deeply into the science of physiology, if we remember that the brain is a composite organ, and that *each portion thereof* has its own peculiar and particular duties to perform, we shall be able at once to see that the over-working or over-straining of any particular region must, to say the very least, be injurious to the health of the whole.

Moreover, such remembrance will guide us in our choice of that particular form of recreation which shall enable us to maintain the *mens sana in corpore sano*. For it is evident enough that what were rest for the brain of one individual would be something totally different for that of another. Example: the author after a hard day's study and thought finds rest or recreation in music; but the musician just returned from an organ recital would leave the guitar alone, and seek for comfort, probably, in reading and writing. We must, therefore, recognise the fact that, as no portion of a machine can be kept constantly at work without being impaired, so no portion of our bodies, and no function of our minds, can be kept for a long time on the stretch without the health being in some measure injured.

The cure for this state of affairs lies in one word, *recreation* — judicious and well-chosen recreation.

The word recreation is derived from the Latin *re*, "again;" and *creo*, "I create." There is no word in the English language more expressive, or better chosen, or more definitive. Take it in its simplest sense—"recreation, the act of recreating." Broadly speaking, the popular meaning may be "amusement," "relief from hard work, worry, or toil." But the first signification is the better for our purpose, because it leads us straight to the physiology of the subject. We have been hard working a certain portion of brain or frame; surcease from labour, coupled with engrossing amusement or play, gives the fatigued organ or brain region the opportunity of re-establishing itself on the old basis of health, and being *re-created*.

The Need of Recreation.—But while the family physician recognises the necessity, or, as we have termed it, "the absolute necessity," of recreation for health's sake, it is to be regretted that so few of the work-a-day or industrious population of our cities and towns put a proper value on this great and genuine life preservative. There are many reasons to account for such apathy. First, there is the class of people who are content to jog on at their labours, bodily or mental, from year's end to year's end, hardly, if ever, indulging in a holiday, and taking very little exercise. They will tell us that their fathers or grandfathers never troubled about holidays, and that they cannot err by following in their footsteps. But they forget that some forty or fifty years back the struggle for existence was not nearly so hard and bitter as it is now. Employment was more easily obtained; and if wages were not so high, still the necessities of life and rates and rents did not run away with so much money.

Another class makes a different kind of mistake, but an equally grievous one. To this class belong men and women who use their limbs while labouring at their daily avocations. What need, they say, have individuals who are on their legs all day of exercise or recreation? Very great need indeed, we should reply, for *work is not necessarily exercise*. The wretch condemned to the toil of the treadmill is not in reality obtaining the benefits of proper exercise, because his labour is not pleasurable. Thus, though the limbs may positively increase in size during his punishment and incarceration, his *nerves* are not strengthened, and the mental faculties either lie dormant or are far below par. Not only are the muscles of physical labourers rendered weary by their hourly exertions, but the nervous system suffers as well. True, Nature is kind; and to such people, as a rule, are granted the sweets of refreshing sleep by night. But how much happier they would be were their evenings and weekly half-holidays

devoted to judiciously chosen recreations, which should lift their minds, for the time being, completely away from the "grind and gride" of their toilsome existence!

Other people will tell us that they "do not feel the need" of either holidays or recreations. Such men or women have become lapped in an apathy which is conducive neither to health nor long life. They exist, they vegetate, but it can hardly be said that they live. Nor is it to be wondered at that they usually age very soon; for ageing has really little to do with the number of years that passes over our heads. It has more to do with how those years are spent. "It is the heart, the *heart*," says a living poet, "that keeps the old man young." By "heart," he means the spirit; and spirit and nerve are nearly synonymous terms, physiologically speaking. Apathy cannot exist without a certain weakening of nerve and nerve-force. Moreover, the apathetic fall victims more easily than do others to trouble or illness. It may be simply to dyspepsia; but this same disorder is the most insidious complaint of any that medical men are called upon to treat, and, moreover, it may open the door to diseases of a hundred different kinds.

The expense of a recreative holiday, or of evening recreation, prevents many brain-workers—clerks and others whose employments are sedentary—from thinking of such a thing. But this is being penny-wise and pound-foolish. Without doubt, health is the greatest blessing anyone can possess; and any form of recreation capable of keeping illness at bay is assuredly cheap in the long run. Again, those very men who are apt to begrudge themselves a holiday, indulge in many little luxuries which are ten times more expensive in the aggregate, and ten times less useful than judicious and periodic recreation would be. It is our duty to remind people of this class of the danger to their social status of falling into a chronic state of illness for even a few weeks, and being thus unable to continue their employment. If they have laid up something against a rainy day, well and good perhaps; but if not, then alas! because in the great battle of life now, when a man has to fall to the rear, there are twenty ready to take his place. How many thousands sink thus every year, or even every month, city garrets and cellars can tell. Surely, then, facts like these form our very best arguments in favour of well-chosen, health-preserving recreation.

One word to quite a different though not so numerous class, in which are ranked individuals who have little or nothing to do, except to chase the phantom Pleasure. Their lives are a constant proof that *amusement*—we cannot honestly call it recreation—may be indulged in to an extent that is

deleterious alike to nerve and muscle. They are bored; they suffer from *ennui*; and this really amounts to a disease of high life, or of moneyed life. If at the outset existence seems to such all *coulour de rose*, it soon becomes dimmer and grey, and hardly worth having. For such, true recreation is to be found in engrossing *employment*. They must come away, out of themselves, if they would hope for health and a moderately long life. They must exist for others, not forgetting that kindness is twice blest, and that the good they do their neighbours will be reflected back to themselves.

If, then, we have succeeded in getting the reader heartily to believe that well-timed recreation is a *sine quâ non* of continuous health, and, as far as many ailments are concerned, a prophylactic, we may advance a step, and consider our subject more in detail and attributively.

Judicious Recreation.—The father or the mother of a family may easily feel a little puzzled as to what special form of recreation the members thereof should choose and they (the parents) should encourage. For although pleasurable exercise and amusement are wonderfully successful in keeping the doctor's chariot away from the door, they must be well timed and judiciously carried out. The old saying, "All work and no play makes Jack a dull boy," is exceedingly true. But, on the other hand, recreation must not be carried to excess either physically or morally.

Physically, recreation can be overdone. It matters nothing what outdoor game be chosen or commends itself to one—whether cricket, tennis, football, bowls, or golf; or what kind of pleasurable exercise—whether boating, riding, walking, or cycling; but, while enjoying it, we must never approach too closely to the boundary-line of exhausting fatigue. The same may be said for indoor games and exercises; and even those that do not entail muscular exertion, but are better described as pastimes, should never be continued until they become a weariness. If, for instance, the brain gets tired when engaged in such simple evening exercises as reading aloud, singing, or playing, it is high time to close the book, put away the music, or lay down the violin.

It may not be generally known that so apparently trivial an act as that of yawning betrays a tired heart, and is an effort of Nature to stimulate that organ to the getting rid of venous blood by pumping it into the lungs. What is commonly known by the term "stretching one's self" (and this, by the way, is usually accompanied by yawning) is another sign of fatigue, and has for its object, like a yawn, the stimulating of a tired heart. Those who lead

sedentary lives, sitting long with head and back bent over the desk, and probably thinking hard all the while, are subject to fits of stretching and yawning. Out they ought to go, into the fresh air, as soon as Nature vouchsafes these warnings; a brisk walk, especially if accompanied by a pleasant companion, will then do wonders in restoring the circulation and oxygenising the blood.

These are really not trivial matters, for, whatever we do, we *should not age the heart*. It is not that heart-disease in a valvular or organic shape is to be greatly feared, but something as bad in the long run, though the symptoms may never at any time be very urgent. What we mean is this: if we neglect recreation, if we work too hard and sit too long at desk-work, the heart becomes feeble, and *virtually old*. If, on the other hand, we carry exercise to excess; if we row too hard, if we constantly "spurt" when cycling, if we are in the habit of lifting weights unsuited to our strength, then we are apt to stretch the right side of the heart. And the life of one who has either a feeble heart or an enlarged right-heart is not to be envied. It is mostly a weariness, and one afflicted thus is generally nervous, and hardly ever knows what it is to be otherwise than tired. It is well to know that wisely chosen and regular exercise and recreation are the remedies for such states of being, for the heart being, like the arm, composed principally of muscle, is rendered stronger by judicious use. Medical men have lately recognised the truth of this, and it is a common thing nowadays for a patient with a feeble heart to be ordered regular exercise in hill-climbing, while but a few years ago the same individual would have been condemned to rest in the recumbent position or in a rocking-chair.

But one may be guilty of excess in recreative exercises or amusements from even a moral point of view. The converse of the old saying about Jack and play is equally true; all play and little work entirely unfits Jack for the battle of life, and he soon falls to the rear, and is heard of no more. It is the greatest of folly to permit thoughts of our sports or amusements to follow us into our studies, offices, or workshops. We cannot be too careful to separate business from pleasure, recreations from duties. Figuratively speaking, at all events, man was destined to live by the sweat of his brow, and happy and healthy is he who cheerfully obeys Heaven's mandate. Recreation possesses a double charm for him who has faithfully performed his duty. He has nothing on his mind; no upbraiding thoughts obtrude themselves to spoil his play. He has worked for his little holiday, worked for his game or pastime, and he feels as buoyant and full of zest as a schoolboy whose day's work is done.

But if the ghosts of neglected duties stalk across the cricket-field or tennis-lawn, half the healthfulness that would have accrued from the delightful sport is lost, simply from the fact that health without happiness is an impossibility.

There are many young men who may be called enthusiasts in the hobbies, fads, or fancies they adopt for sake of pleasure. We see no great objection to this, so long as their favourite pastimes neither interfere with business nor give colour to their lives. If they do so to even a limited extent, we may depend upon it that the votaries thereto are being injured in moral tone.

Moderation.—It may not be considered a digression here to breathe a hint in regard to temperance. We do not refer at all to habits of eating and drinking. What medical men nowadays try to inculcate is *temperantia in omnia*—temperance in thought, word, and deed. This is the kind of temperance we must or should carry with us into field or court, and take with us on the road while walking, riding, or cycling. If we do so, we can never err—never overdo anything, never be carried away out of ourselves; calmness even of speech waits on such temperance, and health is the guerdon of him who possesses it. Not only in our sports, but in our daily avocations, while on duty or off duty, we should bear this *temperantia* in mind. Just an example or two. Suppose that, in order to thoroughly enjoy our recreative exercises, we determine to put ourselves under a sort of mild training. Well, we remember the maxim about early rising. This early rising, however, is to a great extent a will-o'-the-wisp. Sleep is of the *utmost importance* in the animal economy, and he is worse than a fool who deprives himself of an hour of it. If Nature requires it, she will try to have it. She will not be balked or cheated with impunity; but will, if her claims be not met cheerfully, insist upon having her pound of flesh. This, too, in a literal sense; for we never yet saw the individual who contemned sleep, and affected to do with very little, who did not have a lean and hungry look. Even when in training, then, we should sleep *whenever, wherever, and as long* as we can soundly and honestly; though when one does awaken of a morning, after turning in bed once or twice, perhaps it is usually best to get up.

Again, we take our exercise as much as possible in the open air, and rightly too, and we sleep as much as possible in the open air: it is healthful and rational so to do, and we can defend our rooms from draughts by a wire screen to support the open window. But in bad weather one is wise to prefer an indoor game of American bowls or rackets to a wild cycle-ride against the rain and wind. Nor should

we keep our windows open in dreary or frosty wintry weather.

One more example: the cold bath is constantly being bepraised by medical men, and truly it is a wondrous tonic; but while training, that man is no fool who takes the chill off his bath if his reactionary powers be below par, or on mornings when, owing probably to an indifferent night's rest, his heart is temporarily weak or feeble. Thus, then, even in our recreations we must study this *temperantia in omnia* if we would enjoy health to continue them.

Variety.—Everyone knows that daily changes of diet are greatly to be desired for health's sake, but it may be news to some to be told that variety in recreations is just as desirable. A young man or woman with only one or two fads is singularly destitute of resources. Certainly, we cannot all be Admirable Crichtons, but we can all be to some extent adepts in a few good recreative exercises; and we should never hesitate to enter merrily into even those which we know but little about, if by so doing we can please others. If one plays pleasantly, and as well as he can, and if he holds aloft a smiling, good-natured face, his little mistakes will all be overlooked, or, at the worst, merely laughed over. It is truly wonderful how far a "good-willy" manner will carry its possessor into favour with his companions. We knew a sailor officer who could sing only one song, and could not sing that well, but used to laughingly take up his position at the piano and give it heartily whenever asked, and that, too, without the slightest hesitation.

Sympathy and Companionship.—In a family of ordinary size the members thereof should be as united as possible, and each should know at least a little of all the others' favourite recreative fancies. If each member goes drifting on in his own solitary course, taking no heed or thought for the others or for the common weal, this state of matters is sad, to say the least of it. Brothers and sisters, while probably having their own particular pet recreations, should consider it their duty to assist and encourage each other. There may not be much similitudo betwixt playing the violin and riding a bicycle or triicycle; nevertheless, a brother just home from a long, delightful spin across country will be more than pleased to give his sisters an account of the ride, and all the little incidents that occurred by the way. The sisters ought to be just as pleased to listen, and show an interest in what he is fond of. On the other hand, music, to a large extent, runs in families; and the brother will have a great deal of pleasure in listening to the sweet tones of his sister's

guitar or violin in the evenings, although he may not be a performer himself.

One brother or sister may be fond of rowing—it is a healthful pastime—and he or she should not forget to invite other members of the family to take a row or sail occasionally. Thus is sympathy kept up between the junior members of a family, and an affection fostered that should last till death, no matter how far they may in after-life be separated, or how broad soever the oceans that divide them.

But the parents also should enter heart and soul into the recreations of their boys and girls. A father, at all events, should be like an elder brother to his boys. They will respect him all the more if he can wield a lusty bat and take his place pleasantly in the racket or tennis court.

Sympathy, then, betwixt the members of a family in all chosen amusements is much to be desired, even for very health's sake. Man was not made to live alone. No young person could live long as a hermit. Deprive anyone of fellow-feeling, seoff at or gaze without interest at his doings, and you deprive him of a certain amount of *vis nature*, and that means the mainstay of life itself. When there are brothers and sisters in a family, it would be grand if each member could have his or her workshop or study. Here they could all follow their own bent in reading, work, or play, for a too constant companionship is not to be commended, even in families; but after such individual play, all meet together at table, and here (as was insisted on in our first volume) it is the duty of the parents to see that little courtesies are not forgotten. Selfishness in the slightest degree should be discouraged, and all should act as probably all do act when sitting at the board of friends or strangers.

In the country, not only field sports, but field and garden work even should be looked upon as recreations, especially by landed proprietors and well-to-do farmers. It is surprising how much health can be bought cheaply by a young man in handling a hoe in a turnip-field, or a scythe in hay-time or harvest-time. What though even the farm-servants labour side by side with him? He need not forget his dignity or *status*, though making no show of either. His example will stimulate the men to work extra well, his well-turned sentences and his refined conversation will tend to mould them to better things, teach them to think, and elevate them. Even if an honest song be started, the labour will not lag; it will go all the more merrily on. A young man would not only thus be laying up a store of health and increasing his muscular power, but he would be doing good—a good that would tend to make himself happy as well as those around him.

But though this field or garden labour is to be

looked upon as recreative exercise, it should not be made a tax on the strength. If so, it becomes weariness, and does more harm than good. We often hear people complain of being “too tired to sleep.” No one ever should be so. This too-tiredness is caused by an over-expenditure of nerve energy. There is slight pain in all the muscles—called by physicians *myalgia*—but there is more than this to cause insomnia, for the loss of nerve-power lessens the command the miniature nerves possess over the vessels of the brain. Resiliency is lost, they remain semi-congested with blood, and healthful dreamless slumber is therefore an impossibility.

Recreation and Exercise.—From what we have already said, we trust the reader will have recognised the difference betwixt *recreation* and *exercise* pure and simple. Recreation may be exercise, but it must be exercise that amuses, engrosses, *carries the mind right along with it* in a pleasant way; or it may be amusement without exercise.

A good example of exercise is found in dumb-bell drill. There is nothing very amusing about this; in fact, it is often little more than a penance; yet it does good—physically. It increases the pulse in speed and volume, it quickens the respiration, and sends the air we breathe away down into the farthest bronchi—bronchi that are but little used when we are at rest, as shown from the fact that when we have a slight cold these little deep-set tubes get clogged up with mucus during the night, and it is only after we get up of a morning and begin to move about that we begin also to cough and clear these bronchi. Well, but the dumb-bell drill does more: it determines the blood to the surface of the body as well as to interior organs—in fact, the blood is warmed, thinned too, as it were, and set all in healthy motion—the pores of the skin are opened; the nerves even are strengthened; much deleterious matter is removed from the blood by perspiration even when it is insensible; while the secretions are poured out from the great internal organs in larger quantities. By such exercise as this, not only is the body as a whole rendered lighter and more supple, but the muscular tissue of particular parts, such as the limbs and heart, improved, the result being extra size, toughness, and strength.

The young do well to join clubs that may be called gymnastic or athletic. Among these must not be forgotten swimming clubs. Hours in the evening that would otherwise lag uselessly and drearily on their hands or heads may in such places be most pleasantly and advantageously spent. We shall have more to say concerning these in another chapter. Parenthetically, we may here mention, however, that smoking should not be indulged in

during the hours of recreative exercise. It greatly militates against the good that ought to accrue therefrom.

Recreative exercises find favour now in all good schools, whether for boys or girls. We cannot say we see very much good, however, in the somewhat dreary walk that pupils are compelled to take daily, marching two and two, and looking neither to the right hand nor to the left. We never considered that a visit of ceremony to a distant mile-stone could take rank among health restoratives. Nevertheless, pupils do thus breathe *purer air* and get a little *sunshine*. The only question is: Could not the time be more profitably spent?

Among school recreations for boys—and sometimes for girls also—cricket stands high; so does the playground gymnasium. Well, in the former the boys' teacher is usually in the field, and if he is a man of good heart and a boy at heart, this is as it should be. Football is another scholastic game. There is one drawback common to the two: they are somewhat engrossing, and thoughts of them will keep introducing themselves on the boys' minds during school or duty hours, to the detriment of the lads' education. But the good far outweighs the evil.

Boys are wonderfully clever at inventing play-games, and if left to themselves, as free as the wind in field or recreation ground, speedily form themselves into groups, and "go in" for little old-fashioned pastimes, such as marbles or leap-frog, which for the time being are most engrossing, and combine all the best elements of recreation and exercise. Nor have such games the fault of taking such firm possession of the mind as cricket or football, to the exclusion of everything else. Therefore, we recommend that boys should often be left to *amuse themselves* as best they may.

Again, teachers should see that when cricket or other muscular games are played during the forenoon or afternoon interim, the boys should go as leisurely as may be to the field, and stop some minutes before the bell recalls them to school. It is the reverse of good for boys to rush back to their schoolroom—and too often to a badly ventilated one—red and excited.

During vacations we consider it the bounden duty of parents to see that their lads' education is not entirely neglected. An hour a day spent in reading gives a zest and a brighter colouring to the recreative exercises that follow. These last the boys should choose themselves; they certainly should be as varied as possible; but if at the seaside or in a strange country place, our sons will find plenty to amuse them, and ought to get browner and harder every day of their lives.

On the other hand, if the daily occupation entails

much exercise, especially if much walking about in the open air, then the recreation may need to be something that gives the body rest, and it does no harm to give moderate exercise to the brain. Books, music, sedentary games, or quiet scientific occupations, are the sort of recreations such people need.

Sick, Weak, or Aged.—While on the subject of recreation, we must not forget the invalid or convalescent, and the aged or infirm. As to those who are actually and seriously ill, in many cases rest is all that can be recommended, and this includes perfect quiet and the most studied defence against worrying thoughts of all kinds. A doctor, who is also family friend and counsellor, is sometimes heard to say to his patient, "Everything is going on swimmingly in your office and household, and you have positively nothing to do but get well." How very often these latter contentment-engendering words have saved a precious life!

The invalid, he or she, who is suffering—patiently it is to be hoped—from some long, wearying, though probably physically painless illness, needs recreation very much. But this should invariably alternate with spells of that sort of *work* which the peculiar illness does not unfit them for. It is all-important, in such cases, that the mind be kept occupied. We have known such light and pleasant occupation as that of making feather flowers or paper flowers do incalculable good; then there are drawing and painting, and many other kinds of light work: anything that demands skilled fingers rather than strength to perform. The invalid who is somewhat stronger may have a workshop, and spend a portion of each day at carpentry work. Then as to recreations, they must be, like the work done, light and safe: reading indoors, or non-exciting games and music; and out of doors, walking, especially in the sunshine when not too fierce, riding on horseback, driving, &c.; but never on any account should driving be indulged in if there be a high or cutting wind. The main object of all recreations for the invalid is to keep the mind calm or pleasantly amused, but not to the extent of laughing too much. Laughing is a species of involuntary exercise that, if it is indulged in towards bed-time, never fails to excite the brain and prevent sleep.

As to the convalescent, the same rules apply, with one or two reservations. Much outdoor exercise should not be taken while there is any tendency to heat of skin, lest a relapse should occur. Excitement must be strenuously avoided, and in the first stages, as eye and brain are usually weak, it is far better that someone should read to the patient than that he should himself hold the book and strain the nerves. Meanwhile, if he feels inclined to sleep during the

reading, let no false delicacy restrain him. In such cases sleep is life.

Other members of the family often make efforts to "cheer the patient up"; and friends or relations often call with the same object. But such practice cannot be too severely condemned. The babble of tongues, the anecdotes told, the gossip related, all act on the convalescent in a most tiresome way, and such "cheering up" is usually followed by a night of sleeplessness and tossing about. Let us beware of it.

The aged must take their recreations *mildly*. Their blood-vessels are less resilient, their nerves more easily shaken, and their recuperative powers less strong than they once were. And yet, how often do we not see old men taking long walks, apparently with the view of proving they are just as good at seventy as they were at forty or fifty?

The aged should never take exercise within an hour before or after a meal; nor must they allow such exercise to be in the least degree fatiguing. Indeed, when we have said that fatigue and excitement are the chief dangers to avoid in their recreations, we have almost covered the whole ground. The aged, however, should never forget that rest is as important as recreation.

Rest.—This leads us to say just a few words on rest. Medical stress has already been laid in these pages upon the absolute necessity of rest if healthy life is to be maintained, so our remarks thereon need be but brief.

Few, if any, of us can sufficiently realise the intimate connection that exists in the animal economy between work, heat, electricity, and nerve force; yet all can appreciate the blessings of sound sleep, during which not only the nerve-cells themselves, but every fibre or organ of the body is revived and renovated, as it were. During sleep the blood, to a large extent, leaves the brain; it is, for the time being, therefore, no longer the great consumer of nerve force and consequent cause of tissue expenditure; there is no longer that pressure on the brain which mental exertions cause, and which prevents the nutrition and expansion of cells. The blood is flowing now in a milder current, bearing therein oxygen and nutritive material to restore power and influence.

The self-same benefits which we derive from sleep we obtain in a mitigated degree when awake, while either enjoying some simple kind of amusement or resting entirely. It must, however, be a kind of rest-recreation, which demands no vexatious thought or worrying calculation. If it is so, the blood steals away from the over-worked portions of the brain and permits renewed nutrition; then calmness and

comfort are the happy results. If the amusement or recreation partakes of the nature of some mild form of exercise, all the better, for in this case the blood is drawn towards the muscles and from the great nerve centre, and while muscle is being strengthened by the increased flow of blood towards it, the brain, at rest now, is laying up an extra supply of *vis naturæ*, electricity, nerve forces, call it what we may, only it is not a bad simile to liken it to a Leyden jar that is being re-filled. If the rest-recreation is conducted in pure outdoor air, so much the better, because then old effete tissue is more effectually burned off in carbonic acid, and its place supplied by new.

A *rest-cure*—it is no harm to know—is now recognised by many of our most eminent medical men, and some go so far as to enjoin recumbency in bed or on sofa for a certain period of time. This does excellently well in many cases, notably perhaps in myalgia or muscular pains, and mental worry.

"But it is easy enough," says a recent writer, "to recommend rest, but in many cases it will be found difficult to carry out the directions. A woman may not be able to take sufficient rest, for the household duties fall upon her. You tell a man to rest, and he replies, 'Rest! I wish I could. If I rest, who is to keep the wolf from the door?' There are a good many people who cannot rest, but there are many who *will* not rest. Many women, for instance, are naturally too anxious, and active, or even fidgety, to take anything like a real rest. Men, again, recognise the fact that exhaustion consequent on continuous tension invariably ends sooner or later in restlessness and irritability, but too often neglect the great vital law of change, which runs through the whole universe, and impels the weary to cease from labour.

"Rest, to be of much service, must be thorough rest—rest, mental and physical. It is of little advantage to a worn-down mother to go to the seaside for the benefit of her health if she takes her little ones with her; or for an author to resort to the Lake District with his pen, ink, and paper in undiminished array; or for the jaded belle of the ball-room to change the gaieties of the town for those of the country."

Even partial rest, however, does much good to the weary work-a-day men and women of the world. The afternoon *siesta* of, say, an hour and a half to two hours is much to be recommended when it can be obtained. Really and truly, no better investment of time could be made or imagined. One lies down on a sofa in a quiet room with newspaper or periodical, and reads till drowsy: then if the paper be placed over the brow and eyes, the world is soon shut out, and in due time one rises like a giant refreshed.

The following words, although from the pen of a lay writer, are worth remembering :—"To ensure long life, recreation should be considered a daily duty. It makes the busy man thoughtful, and the thoughtful man busy. It ensures health, success, and the accomplishment of more and better work." As regards pleasures, it is remarked :—"The systematic pleasure-seeker systematically fails to attain

his end, and with him one excitement after another turns to gall and wormwood. It is never the gourmand that gets the best dinner : it is the industrious son of toil who earns his bread by the sweat of his brow : who, moreover, eats that he may live ; not lives that he may eat. Pleasures must be gathered by the wayside ; if we go out of our way to seek them, disappointment is sure to follow."

WASHING, AND WASHING APPLIANCES.

It is greatly to be feared that the practice of "putting clothes out to wash" is becoming more and more usual in modern households. Washing-day has been found so much of a trial, and it has interfered so greatly with home comfort, that housekeepers have been glad to get rid of it, without stopping to calculate how much the temporary relief would cost them. That they have to sacrifice much, however, for this relief, no one of experience will attempt to deny. The weekly sum to be paid for laundry-work is only a small part of the matter, though this is undoubtedly considerable ; for it has been calculated again and again that if washing at home is well managed it is cheaper by at least half than is washing sent out ; while if a machine is used, and if the work can be accomplished without extra help being hired, a much larger saving than this can be made.

The calculation here referred to is apart altogether from the saving made from the clothes lasting longer ; yet, after all, the chief loss in putting washing out arises from the loss and wear and tear of garments. The majority of professional laundresses will insist upon using "something" to save labour ; and the more effectual this "something" is in removing dirt, the more likely it is to make the fabric tender. Of course we cannot wonder that the professional laundress acts thus. Continual washing is weary business, and there is great temptation to use aids which make it easier ; but that these aids are costly for the housekeeper is most unquestionable.

Another objection to putting washing out arises from the possible danger to health produced thereby. Looking at the subject from this point of view, it may be well to quote the following remarks which appeared recently in one of the medical journals :—"The absence of any regulating authority, and the lowly condition of many of the proprietors of private laundries, render these establishments peculiarly liable to faults of management. No readier method of disseminating the germs of infectious disease

could well be devised than by the intermingling of wearing apparel ; and when this intermingling takes place, the use of antiseptics can afford no more than an untrustworthy and insecure protection from the risks of contamination. Hence the very safest plan is to arrange, where possible, for laundry-work to be done at home, and by resident domestic servants. This, however, is a counsel of perfection which can seldom be put into actual practice."

It would, however, be unfair to assume that it is only a wish for ease, and an appreciation of the inconvenience and unpleasantness associated with laundry-work, which cause so many housekeepers to put washing out. There is also a real difficulty belonging to the undertaking, which has to be faced. Modern domestic servants have a great dislike to washing at home. When seeking a new situation, one of the first inquiries an applicant for service makes is whether or not the washing is put out ; and if she hears that it is not, or that special help is not hired for it, she usually turns away in disgust, and refuses the position altogether ; yet, as every housekeeper knows, there are many reasons why it is undesirable to introduce special helpers into a kitchen. Casual helpers very often bring trouble ; they do not readily conform to rules ; they are very difficult to manage ; and their presence usually leads to extravagance, gossip, and disturbance. Taking, therefore, everything into account, we have to acknowledge that modern housekeepers are very excusable if they hesitate about attempting to wash at home. Yet even while doing this, we have to urge that if they would economise and make the most of the materials at their disposal, there is no more effectual way of doing it than by conquering the difficulties referred to, and arranging for the various laundry processes to form a part of the ordinary work of the household.

One advantage associated with washing at home is, that housekeepers who can accomplish it are able to indulge freely in the luxury of abundance of clean linen. When every article which is washed

has to be entered in a list and paid for separately, it becomes a matter of importance that the quantity should be kept down. This leads to clothing being worn too long, bed and table linen being changed but seldom, towels, aprons, pocket-handkerchiefs, and dusters being kept back till they are over-dirty, in consequence of which their colour is spoilt. Thoughtless persons often speak as if the habit of wearing spotless dainty linen were a mark of a refined and cultured mind, whereas it is really quite as much a sign of a full purse. A great man who raised himself from a position of poverty to one of affluence, once said that it had always been his ambition to get on to such an extent that he could wear a clean shirt a day. He was quite right: a clean shirt a day is a luxury quite out of the reach of most householders. There are thousands of people who are compelled to dispense with the satisfaction resulting from wearing dainty linen because they cannot afford to pay the laundress's bills. If washing at home were more usual than it is, this luxury could be enjoyed by large numbers who are now obliged to dispense with it.

It is perfectly true that for a great many house-keepers washing at home would be an impossibility. They have difficulty in getting the ordinary work of the house done, and dare not attempt the extraordinary. Others could do it, but they are afraid of it. They associate washing-day with general discomfort, muddle, badly cooked and badly served meals, dampness, untidiness, bad temper, and misery. Where these conditions prevail we may be quite sure either that more has been attempted than is reasonable, or that proper arrangements have not been made, nor the best methods adopted. The subject is so important and so interesting that it is worth while to look the difficulty fairly in the face, and find out what we can about it.

Utensils and Apparatus.—It is a great economy of time and labour to have proper utensils and apparatus for laundry-work. In these days the machines and appliances constructed for this purpose are almost without limit. How elaborate and costly they may be when money is no object is shown from the following description, published some months ago, of the laundry attached to the mansion built by a celebrated millionaire in America.

The description appeared in one of the American journals:—

“Very few art-students in New York have as artistic a gallery to work in as the laundress and maids who polish the Limerick shirt-bosoms of the master, and flute out the thread lace-ruffles of the mistress, of this palatial home. Like the stately kitchen, the laundry is tiled and roofed with terracotta, admirably lighted and ventilated, and looks over a grass-plot 30 by 66 feet, between walls of Japanese ivy and creeping plants. The upper section of the walls is done in old English blue tiles that would be the glory of a banquet-hall, and the wainscoting is white marble mottled with gypsum. Everything is stationary that belongs to this department but the clothes-horses. There are eight or ten marble tubs as white as a crypt and almost as large, on each of which a brass wringer is attached. Grooves are marked off into which the wash-trays fit; there are pockets cut in the marble for the soap; and the faucets are plated with brass, and polished like the altar-plate.

“The clothes-boiler is built in the wall opposite the tub. It is on a level with the floor, thus doing

away with the dread every laundress has of scalding her arms in transferring the boiling clothes from the kettle to the tub. There are hot and cold water faucets in this capacious kettle, and by means of a damper the heat can be turned off while the maid is removing the clothes. Not a drop of water has to be lifted or carried, and the fact that the floor is covered with a big Smyrna rug is argument sufficient of the neat way in which a family washing can be despatched.

“The old ladies and staid housewives who persist in the belief that it is impossible to get clothes white without the bleaching influence of the sunlight may be interested to know that the clothes washed in this laundry are never hung out to blow dry. Instead, they are boiled in repeated waters, put through the old-fashioned bluing processes, and wheeled into the drying-room, which is located between the kitchen and the laundry, and is of great width. This hot-air room is considerably more torrid than the perspiring-closet of a bathing establishment, and it dries even the heaviest bed-linen very quickly. White tiles make up the walls; the steam-coils are aproned with white metal that

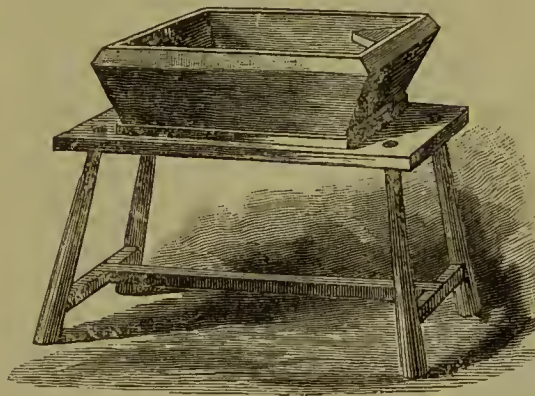


Fig. 1.—TUB WITH STAND.

reflects the heat; and the fine cable cords, on which the clothes are hung, have varying altitudes, the lowest being for handkerchiefs, collars, and small pieces."

An elaborate and costly laundry of the sort thus described would be a very interesting spectacle, and would probably give much pleasure to the builder and owner; but the clothes would not be washed in it one whit better than they would be in the homeliest of the sculleries which do duty as laundries in so many houses, if only in the latter the best methods were adopted, and if the clothes, after being washed, were hung in the fresh air. When the weather is bad, it is doubtless a great convenience to have a hot-air closet in which to dry them, and in large laundries contrivances of this kind are exceedingly useful. Nevertheless it still remains true that there is no sweetener and purifier like fresh air; and when it is available, a little piece of drying-ground is to be preferred to the most elaborate drying-closet that ever was built.

The utensils required for an ordinary wash are not numerous and not very expensive. The size and number of them will of course vary with the quantity of the articles to be washed. The labour of washing will be much lightened if a good machine is provided; but when it is absent, there are implements which must be regarded as quite indispensable. For example, even for a small household wash there should be at the least two large wooden tubs, narrower at the bottom than at the top, with one or two smaller tubs, and a low movable bench or stool to stand the tubs upon, as in Fig. 1. This should be of a height to suit the washer, so that she shall not need to stoop overmuch. Neglect of this detail, both in washing-stools and ironing-tables, is the cause of many a back-ache. The washing-stool on washing-day should be put in the front of a window, or where the light will fall on the clothes. Square tubs are generally used, as here shown, but oval and round tubs are preferred by some laundresses. The square ones are, however, less liable to become leaky.

Washing Machines.—Amongst the greatest aids to washing at home which can be named are washing machines and wringing machines. It has been truly said that a washing machine is to washing what a sewing machine is to sewing; it does the work in very much less time, and it saves trouble, when people understand it and have got into the way of using it. But when people do not understand it, and do not use it properly, it is only a disappointment. Unfortunately a great many servants have a prejudice against machines; they will not follow the directions given by the makers, and, consequently, they do not give the machines a fair trial.

There is a very large variety of washing machines in the market, and frequently the question is asked, "Which is the best washing machine that can be bought?" The answer must depend on circumstances. The value of a machine depends very largely on the skill, intelligence, and physical strength of the person who has to use it, and also upon its being suited to the requirements of the owner. Thus it follows that a machine which is pronounced perfect by one laundress is disliked by



Fig. 2.—WASHING WITH A DOLLY.

another. The fact is, so much mechanical skill and ingenuity have been exercised in constructing machines to save labour in laundry-work that there is scarcely a machine sent out by a maker of repute which is not an aid when properly used; while for people who will take a little pains to choose a good machine for *their* purpose, the possibilities of the situation are very great. So much is this the case that if a machine is purchased from a respectable manufacturer, and if after being used for a while the statement is made that the machine is a failure, and cannot be worked satisfactorily, the chances are twenty to one that the worker and not the machine is to blame.

Many washing machines have been introduced of late years, and some of them are very valuable. They are made of all sizes, with rollers attached and without rollers. By way of assisting those who are

in doubt about the choice of a machine, a short description, with illustrations, of some of the best known, and of the method of working them, may be of service.

According to the manner of washing long prevalent in this country, and still followed in many parts, clothes were cleansed by being "dollied"—that is, they were put into a tub with good suds, then moved about, turned over, and rubbed against each other by means of a "dolly," a peculiar utensil consisting of legs attached to an upright pole, which was put into the tub, and, with a jerking movement (skill in accomplishing which was easily acquired by practice), made to describe a half-circle, then partly lifted, and worked round again and again, carrying the clothes along with it. Extraordinary as this process would appear to the uninitiated, it was very effectual. It was proved that clothes thus stirred, moved, and rubbed against each other, came out very much the cleaner for the treatment, and a large wash was generally considered to be handled quicker and done better by a dolly than if washed by the hands alone. There was, however, a great deal of splashing about the process, which is only suitable for a wash-house with stone or concrete floor, and we see little of it now in private houses, beyond sometimes a good stirring about of the contents of a copper with a stout mop-stick, the principle of which is, however, precisely the same. (See Fig. 2.)

The principle of "dollying" or dashing linen being thus approved, it is no wonder that many inventors of washing machines tried to imitate this principle, and at the same time to save labour. This is the case in the machines of Messrs. Twelvetreces, Messrs. Burrell and Co., and other well-known laundry engineers. The "Villa" Washer, for example, of the first-named makers, consists of a massively made tub, which forms the basis of the machine, and which occupies no more ground-space than an ordinary tub or mangle. It is fitted with a "dolly," which by means of a wheel turned by a handle is moved swiftly round and then backwards, and carries the clothes along with it in every direction, while the currents

and cross-currents of soapy water created thereby pass through and carry away the dirt. These "dolly" washers are excellent machines, and are spoken of enthusiastically by numbers who use them. They are easy to work, and need no packing, the clothes being dropped in lightly. It is important, however, that too many clothes should not be put in at once, because unless there is room for the "dolly" to work freely, the soapy water could not rush through, and the clothes might be torn. (Fig. 3.)

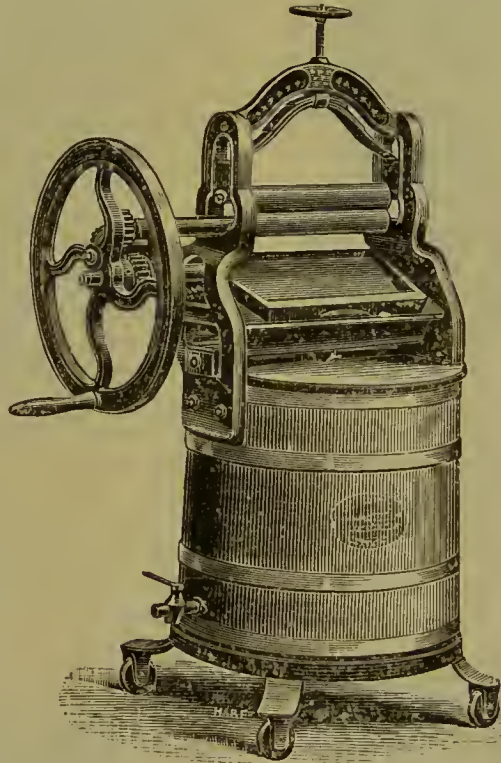


Fig. 3.—TWELVETRECES' VILLA WASHER.

The admirers of the "Villa Washer" are accustomed to say that when this machine is used, it is not necessary to boil the clothes. It is, however, advised that the clothes should be laid to soak for some hours before being washed, and that they should then have the dirty water wrung from them before being laid in the machine. The water in the tub, when the articles are in, must not reach to within some inches of the lid, or it will splash; and jellied soap must be used to make a lather. The method generally recommended is to pour the requisite quantity of boiling water into the machine, add the soap-jelly, and put in the clothes. The water when put in must be boiling, and all the time it must be too hot to allow of the hands being in. The handle is then worked for a

few minutes, at the end of which time the clothes will be clean, and ready to be wrung out, rinsed, and blued. The machine can be bought with or without a wringer.

Another adaptation of the principle of the dolly is found in Messrs. Burrell's "Alpha" Washer. Here the tub is made very thick, with galvanised hoops, and is corrugated inside, with dashers strongly bolted. The dolly of this machine also reverses its action, and thus causes much friction of the clothes, and cleanses, while saving labour, time, and soap. The general action of all these dollying machines will be seen from the sectional view in Fig. 4, which represents a large-sized under-driven steam-power machine, and Fig. 5, which shows the interior of a small machine. The dolly, in the former case, is built upon a large, flat bottom, the full size of the receptacle, which revolves with and forms part of it,

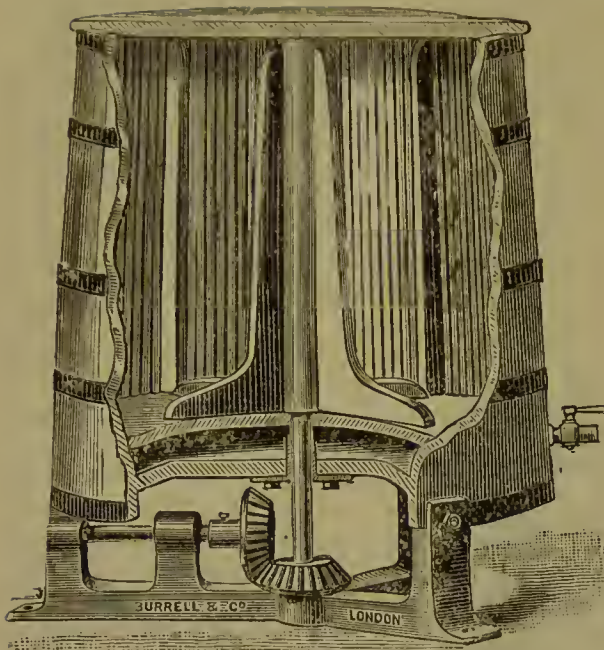


Fig. 4.—SECTION OF LARGE ALPHA MACHINE.

and the clothes are carried against the interior ribs, as well as general corrugated surface of the tub. The dolly of the small machine has no floor or bottom, but turns on an axis only. The former arrangement is preferable, as friction against the floor of the tub is not advantageous. The following is the method of procedure recommended:—Before using the washer the first time, scald it out with hot water and soap, to take the stain or colour out of the wood. Fill the washer not less than three-fourths full of boiling water. Dissolve half a pound of good soap and pour it into the washer; soap the parts of garments which are badly soiled, and do not crowd the washer with too many articles at once, or heap them one on another, but put them evenly round the dolly, so that it may work freely and with ease. Shake the clothes when lifting them out of the washer. After using the washer, rinse it out with cold water.

In the washing machines of Messrs. Kent and Co., the aim has been to imitate hand-washing, rather than washing by means of a dolly, the clothes being rubbed together between two corrugated surfaces, and so freed from dirt. The process of washing with this machine is very similar to that described for the last.

Messrs. Bradford's "Vowel" washing machines are well known and highly esteemed, and differ radically in principle from the preceding. They are of many sizes and qualities, to suit varying requirements; and these differ from each other in small details, but the form of most of the machines is that of an eight-sided barrel with a corrugated

wooden lining and a rotating handle. Where they differ from the preceding is in the fact that, for family machines, Messrs. Bradford discourage the employment of dollies and dashers, and assert that these adjuncts, while greatly increasing the labour, impede the cleansing process instead of assisting it, and injure the clothes. Perhaps the following quotation, taken from their pamphlet of directions, will best explain their views. "The theoretical principle of the 'Vowel' machine is to produce, by the simple turning of the washing compartment, such a 'rubbing, swelling, and 'possing' or 'dollying' action upon the clothes as shall effectually cleanse them without the assistance of any mechanical apparatus working amongst them. This cleansing process also is accomplished with a very small quantity of water, only just sufficient to carry the linen freely round the interior of the machine; and it is maintained that just in proportion to the small quantity used, so is the friction or rubbing and cleansing power of the machine increased or diminished.

"This small quantity of water is more efficient for this simple reason: that a cupful of soap-jelly dissolved in three gallons of water must of necessity possess greater cleansing power than the same eupful of jelly would possess if dissolved in six gallons of water; and what is of even still greater importance, with the three gallons of water and, say, twelve shirts, there would be double the rubbing friction upon the clothes to what there would be with six gallons of water.

"In washing by hand or with the ordinary peggy



Fig. 5.—DOLLY OF SMALL ALPHA MACHINE.

tub, a large quantity of water is absolutely necessary, because the dolly could not be worked at all with a small quantity. But the 'Vowel' machine is virtually a washing-board, and every washer-woman knows that she neither rubs the clothes by

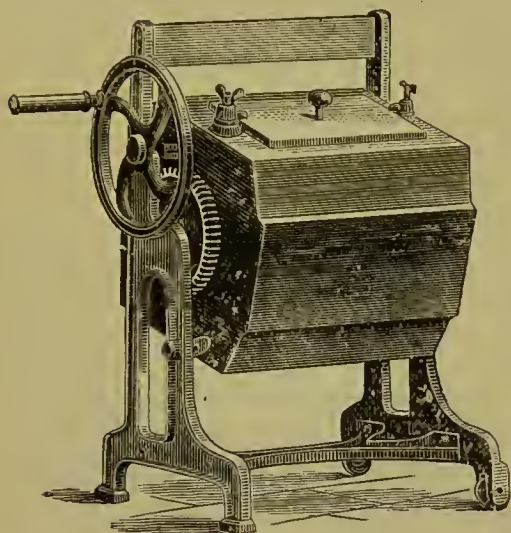


Fig. 6.—BRADFORD'S Y MACHINE.

the hand nor scrubs them upon the wash-board when *under* the water, which would be swilling, not rubbing; and so with the 'Vowel' machine, the tendency of the greater quantity of water would be to float the linen rather than to allow of its being rubbed. But with the proper small quantity of water it will be found that the clothes rub over three-fourths of the machine, and it is only when they are just behind the 'mid-feather' (or inclined board) that they have the necessary swill, which corresponds with the dip of a woman's hands after rubbing, collecting as it does the water under the clothes, and the next moment dashing both the clothes and the water upon the corrugated surface below."

Fig. 6 represents what is known as the Y machine, for a small family, and which is purposely so made that a wringer can be screwed on to the top of the frame. Fig. 7 shows a large E family machine, with rollers above for wringing and mangling, actuated by weights on the lever below.

The following is the method of washing with one of the "Vowel" machines:—Sort and divide the clothes; if they are very much soiled, put them to soak; if not very much soiled, they may be put into the machine dry. Put the requisite quantity of water into the machine, with soap-jelly, to make a lather.

The amount of water required will depend on the description of machine employed. Full directions are sent with each machine by the makers. If the clothes are put in dry, the water must not be hotter than the hand can bear; if put in out of a cold soak, boiling water may be used without risk of setting the stains. Gather up the clothes roughly, taking body linen by the top of the garments, and sheets and table-cloths by a corner or one end, and, without folding them, compress them between the hands, and put the parts that are most soiled (such as the necks and wristbands of shirts) outwards, so that they may get more rubbing friction. As each successive handful is taken up, place it in the machine, pressing it tightly against the last handful, and thus forming a row from end to end of the machine, so that the clothes may rub against each other. If they are bundled into the machine one *upon* another, the result will be that instead of each article rubbing itself, and also rubbing the next articles to it, they will, perhaps, get into a tangled roll, and will not rub at all. Open the ventilator for a few turns, and withdraw the plug for an instant to allow the escape of air; then close it, and work the machine slowly and easily; not more than 16 to 20 revolutions per minute; not quickly, or the washing principle will be interfered with. After working for fifteen or twenty minutes, the clothes will be "firsted," and ready to be passed through the wringer. For many articles a "seconding" of five

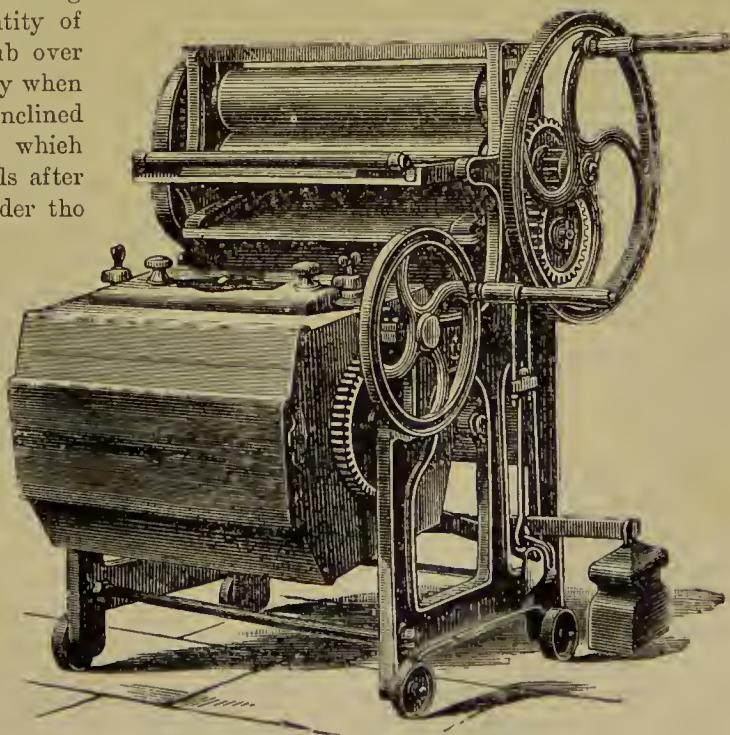


Fig. 7.—BRADFORD'S LARGE E MACHINE.

minutes' duration in boiling water will be equal to an ordinary boil. Let the clothes be looked over, therefore. Those that are not as well washed as they ought to be must be put aside for "seconding" (that is, having a second soap, rub, and wash in the machine), after which they, as well as those first set aside, will be ready for boiling, rinsing, and bluing and hanging out to dry. For flannels or woollens a larger quantity of soapsuds must be used than for ordinary linen; and flannels must not be placed either in very hot or boiling water.

A machine called the "Water-force" has lately been introduced from America. It has a reepectacle somewhat like that of the Bradford "Vowel" machines, but with inside *perforated* ends. Outside these ends doors are fitted, opened and shut in turn as the machine is worked; the effect of which is to drive strong jets of suds through the perforations on to the clothes—current-jets are, in fact, driven alternately from end to end, through and against the clothes. This action is very powerful, and when worked by steam power has been most highly spoken of by managers of public laundries who have tried the machine; but it is perhaps doubtful whether the principle can be adapted for private family use, owing to its cost, and the force required to drive the water. All laundry engineers make machines to be driven by steam, for large laundries, very different in many respects from those described here, which are such as can be worked by a woman or girl.

Steam Washers.—When speaking of the various washing machines which may be chosen, it would be a mistake not to refer to the latest invention in this direction—that is, the Steam Washer. This machine is quite modern, and was invented in America, and specimens were exhibited in large numbers at the last Manchester Exhibition. These washers are marvellous contrivances for securing cleanliness while saving labour. They can be worked either by means of gas-tubing attached to a gas-pipe, or by means of a coal-stove placed underneath the washer, or by an oil-stove. Where they are used, it is necessary to have a separate wringer.

There are many sorts of steam washers, and several patents. Perhaps the most generally known are the washers manufactured by Messrs. Greenall, and also by Messrs. Rowe, both of Manchester. All the machines are, however, worked on the same principle. The clothes are soaked over-night; in the morning they are wrung out, and the dirty parts are soaped well. They are then put into the washer, which is a revolving cylinder made of tinned iron. Water to the depth of three inches is put

into this vessel, a little soap-powder or soap cut fine to make suds is put into the water, and the cistern is nearly filled with clothes. The water is now made to boil by means of the gas or of the coal-stove; the handle of the machine is turned very slowly for ten or fifteen minutes, at the end of which time the clothes are washed, and need only to be rinsed, blued, and dried. They require no boiling; the hot steam which has passed through and through them has expanded the fibres of the linen, drawn out the dirt, and caused it to sink to the bottom of the machine. Nothing can exceed the simplicity of this machine. It reduces the labour of washing clothes almost to a minimum; it is most economical and expeditious; and it does not injure the clothes at all. The only difficulty associated with it for ordinary householders is the appliance for heating the water. When gas is used, the supply of gas must be sufficient; when a coal-stove is provided specially for the purpose, a smoke-pipe must be one of the fixings. If it were not for the necessity of providing appliances for generating steam, it is probable that the steam washer would quickly supersede all others for household use. When, however, gas is already laid down, a suitable provision for this purpose can be easily managed. Of course when a steam washer is used, clothes have to be mangled, starched, and ironed as usual; but the actual washing is made extremely easy.

A somewhat handy appliance, known as the Harmens Self-acting Machine, is of the same class, but is more useful as a kitchen auxiliary for small work. It consists of a strong tinned and copper-bottomed iron case, with close-fitting cover. Inside is a loose bottom, from which ascends a hollow tube, with an inlet at the bottom, and pierced with holes round near the top. The soap solution is placed in the case, the loose bottom and tube inserted, and sufficient water added to quarter fill the case. It is then stood on a clear fire or the top of the stove, the clothes (previously soaked) placed in round the tube, the cover put on, and left for an hour, when all is ready to pour into a tub and be rinsed. The hot suds and steam are driven up the tube and through the holes at the top, and so kept circulating through the clothes down again to the bottom of the case.

Wringers.—A wringing machine is even a greater help to a laundress than a washing machine. It saves the clothes; it helps to make them clean by freeing them entirely of dirty water; it saves the strength of the worker; and it can be used for mangling as well as wringing. It is an actual fact that clothes are less injured when passed through a machine than when wrung with the hands, because

the twisting round and round is so likely to tear them.

Almost all household washing machines are fitted with rollers for wringing, and the combined wringers and washers are very useful, because the clothes can be easily wrung dry by means of rollers, while the water which is squeezed out of them naturally falls

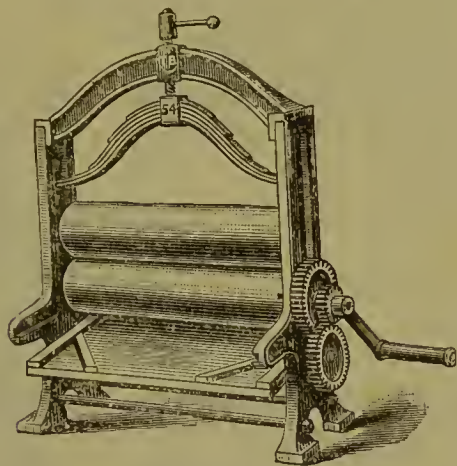


Fig. 8.—WRINGER FOR A TABLE.

back into the machine. Also when the machines are closed, the rollers can readily be employed for mangling purposes.

Of the multitude of wringers there is no end. Every good maker of washing machines supplies wringers also, and there is much less difference between the wringers of one maker and another than there is between the washing machines. Sometimes wringers are a part of the washing machine. Sometimes they are sold separately, and are made to stand either on the floor or on a table. All three arrangements have their conveniences; yet wringers made to stand on a table are not to be universally recommended. They monopolise a good deal of the table on which they stand, and when a kitchen is small this is a consideration; and they are too heavy to be moved about very readily. Before purchasing a machine of this sort, housekeepers would do well to think of these facts. Fig. 8 shows one of Bradford's cheap wringing and mangling machines, in a form which can be either used on a table loose, or screwed down if preferred, and if other circumstances make it convenient, screwed on a plain and simple stand later on.

A wringer is much more likely to give satisfaction if it gets fair treatment. Thus, if several articles are put in at once, and if the clothes are made straight and level before being passed through the rollers, they will be more evenly and thoroughly wrung than they can be if they are simply placed in a lump of different thicknesses. Also it is

important that a second batch of clothes should be put in the rollers before the previous batch has quite passed through. Unless this is done, the continual jerk, produced by the strain upon the rollers being constantly relaxed, is likely to injure the wringer. It is not desirable, either, that a wringer should be used for mangling immediately after it has been used for wringing wet clothes. If this is done, the wood, being wet and soft, will wear away the sooner. It is well, therefore, to let the rollers dry before using them for mangling.

We strongly recommend that, if possible, all the wet wringing work be done by a separate small wringer, whose rollers are covered with india-rubber, reserving larger wooden rollers entirely for mangling work. The mangling rollers will last much longer and keep smoother, and the wringing will be better done, and with less danger to buttons and such appendages. Such india-rubber covered wringers are sold which can be fixed on or in an ordinary tub, or they can be placed on trestles above an ordinary tub, or screwed on to the top of the machine. Of this sort are the "Acorn" wringers of Messrs. Bradford, and the "Prize" washers of Messrs. Twelvetreets. These small wringers stand a good deal of wear and tear; they are light to handle and expeditious in use; and they are particularly handy for mangling small fine things which are to be got up at home when the general wash is put out. A household washing-bill may be very considerably reduced by keeping articles of this kind out of it; yet they can scarcely be most successfully ironed unless properly mangled.

The Copper.—A copper for boiling the clothes is of course required for laundry operations. Sometimes it happens that the apartment which has to be made into a washhouse is not fitted with a copper, or that the copper is not as large as could be wished. Every house used to be properly fitted with a copper, but the modern decline of family washing has caused many of the more recent houses to be sadly deficient in this respect. When this is the case, portable boilers of any size can be obtained in galvanised iron, and only need to be fitted with a pipe which shall communicate with the nearest chimney.

The management of a copper is a very important detail in connection with washing at home. A copper which will not "draw" properly is a great nuisance. To work in a laundry full of clean steam is trying; but to work in a laundry where smoke and steam struggle for the mastery is enough to try the temper of the most amiable. Usually when a copper does not draw well, the reason is that the flue is choked with soot. When housekeepers think

that the copper requires to be re-set, in nine cases out of ten the probability is that it wants to be "managod." To "get the sweep to it" will not be sufficient; sweeping it will only cure it for a time, while the ordinary sweep often finds it necessary to take a copper out in order to sweep it, and the copper has to be re-set after sweeping, for which operation a bricklayer has to be called in, and thus trouble and expense are entailed. Yet a well-set and well-managed copper can be used for a long time without the aid of a professional sweep, if the simple expedient be adopted of sweeping it, after every time of using, with one of the long sweep's brushes with a flexible wire handle, which are sold for the purpose. The brush will simply need to be pushed in through the door of the flue, and to be passed all around. Very little soot will be taken each time, because very little will have had time to accumulate; but the flue will be *kept* right, and to keep a thing right is a far greater thing than to make it right after it has gone wrong.

Another point to be remembered about a copper is that it must be thoroughly washed and made quite *dry* after use; unless this is done, it will become rusty, and a rusty copper will spoil any clothes. Also it must be wiped before being used, and between the times of use it must not be converted into a receptacle for damp and soiled linen. Some domestics are very fond of keeping dirty dusters and dirty house-cloths in the copper—"out of the way," as they say. Occasionally they will put in also one or two fine damask dinner-napkins and better things of the same sort, and then they will wonder how it is that the napkins are mildewed and stained. A mistress who finds her table-linen unaccountably damaged thus will do well to make enquiries as to where it has been thrown when dirty, or to look into the copper for herself—which, indeed, she ought to do every now and then in any case.

One of the advantages associated with the use of a copper is that all sorts of rubbish can be burnt in its fire. It would be a great extravagance to burn "nobbly" pieces of coal under the copper. Cinders mixed with coal-dust are really much more suitable; and if cinders and dust are made into a paste with water, excellent fuel for the purpose will be produced. As housekeepers often find it difficult to burn the coal-dust to profit, this is a detail worth remembering.

A necessary appendage of the copper is a copper-stick for lifting linen out of the boiler, and for pressing the clothes down whilst they are being boiled. An improve-



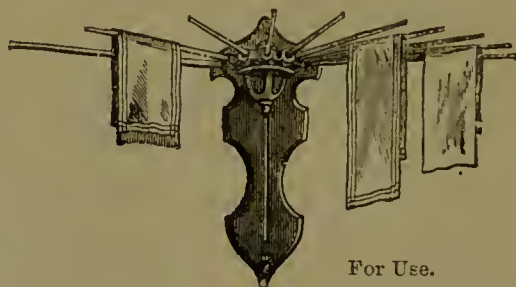
Fig. 9.

ment on the old-fashioned copper-stick is the laundry-fork. (Fig. 9.) This utensil can be bought for a mere trifle, and when it is used the laundress is in less danger of scalding her arms than she otherwise would be.

Drying Apparatus.—Utensils for drying clothes, and one or two clothes-baskets, will also be needed. The drying apparatus most generally used in families is the *folding* clothes-horse, which is made of different sizes, and with two, three, or four folds. Another clothes-horse is made with four radial wings round a central pole, against which all double up when out of use, something like a lazy-tongs. There is also a useful and ingenious appliance, named the "Expanding Clothes Airer," of Messrs. Twelvetrees, which can be hung on any wall or convenient place. When closed, it looks something like an umbrella; when open, it has arms on which clothes can be hung. (Fig. 10.)



Shut.



For Use.

Fig. 10.—EXPANDING CLOTHES AIRER.

When clothes have to be dried indoors, the same makers supply two ornamental cast-iron frames, between which polished wooden rails are fixed—the frame being suspended by means of lines and pulleys connected with a small cast-iron winch for raising and lowering. Several of these may be hung in the same room, and where they are used all the clothes are out of the way, besides hanging in the hottest part of the room. Bradford's patent implement, known as the "Radial" Horse or Clothes-Stand, and made either to fix to a wall, or stand in the open (Figs. 11 and 12), is a capital appliance, because it economises space. "Airing and Drying Chambers," made of galvanised wrought-iron plates, which enclose the stove at a suitable distance so as to utilise the heat and prevent its being burdensome to the workers, are also amongst the modern laundry

conveniences. These chambers can be taken to pieces, packed in a very small space, and refixed

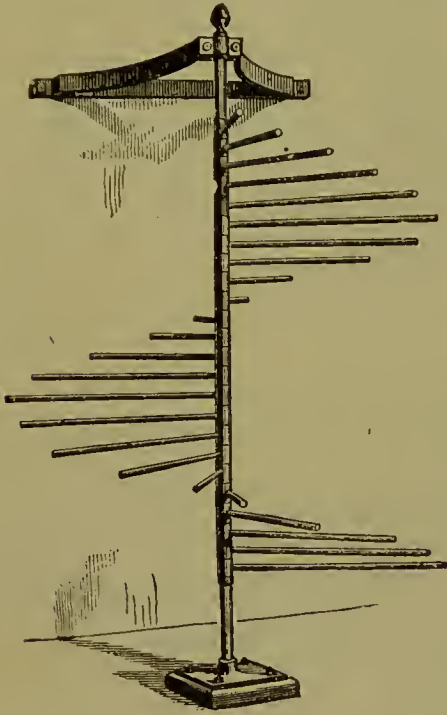


Fig. 11.—RADIAL CLOTHES-HORSE FIXED TO A WALL.

with little trouble. Large laundries are generally fitted with hot cupboards or closets, each of which is

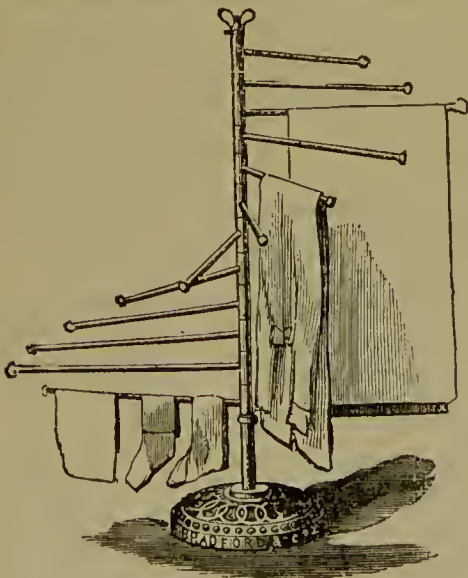


Fig. 12.—RADIAL HORSE ON STAND.

fitted with a "Radial" or some other kind of clothes-horse inside.

For drying clothes out of doors, cast-iron clothes-posts and tubular iron clothes-posts are now often

preferred to the old-fashioned wooden posts; while very convenient inventions are 'Twelvrees' Clothes-Line Holders, which can be attached to any wall or convenient place, and obviate the tying of knots in the clothes-line. (Fig. 13.) Many laundresses, however, prefer the clothes-line made of galvanised wire, because, not being affected by the weather, it

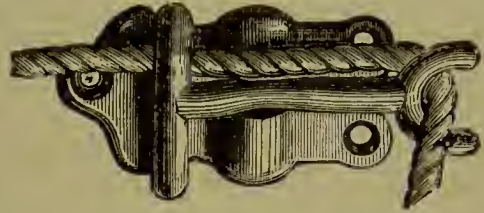


Fig. 13.—CLOTHES-LINE HOLDER.

can be made permanent. Everything, however, depends upon the galvanising; and we have seen terrible iron-moulds on linen too rashly entrusted to galvanised wire. The American Revolving Clothes-Dryer is a favourite with many families who can dry out of doors. Its arms, between which lines are stretched, open and shut against a revolving centre-pole exactly like an umbrella held with its point to the ground.

Clothes-baskets are too well known to need description. In large laundries a clothes-barrow or waggon is used instead of the old-fashioned clothes-basket, being easier to move. These waggons are provided with india-rubber wheels. The bottom of the waggon serves as a drainer for wet linen, and



Fig. 14.—CLOTHES-BARROW.

the waggons are sometimes made with a loose drainer to fit on the top, for dipping linen into the rinsing-water. Such machines are equally useful for the washing of a large country mansion; but

such a barrow as represented in Fig. 14 will be more convenient, and amply sufficient, for the wants of even a large family. The one shown is known as Bradford's "Eaton" pattern.

The American clothes-pegs, those which are made in one piece (Fig. 15), and are shaped in the making, are more durable than those which are made in two pieces and bound together with tin. The wooden spring letter-clips so largely sold in stationers' shops are often used, and there are several other kinds,

but the simplest is the best. When hanging out clothes, it is well for the laundress to wear in front of her apron a large flat pocket, about a foot and a half wide and a foot deep, for keeping the clothes-pegs ready to her hand. If these useful little articles are thrown on the ground, or even if they are left to lie about the laundry, they will get dirty, and will soil the clothes for which they are used.



Fig. 15.

BREAKFAST, LUNCHEON, AND SUPPER DISHES.

OF all meals none vary so much as that of breakfast. In many families it will be found that the style of breakfast is governed entirely by tradition. There are families who from time immemorial seem to have breakfasted upon cold bacon, accompanied by boiled eggs of the description mentioned by Mr. Middlewick as "shop 'uns." On the other hand, there are persons who could no more eat a boiled egg, unless it were new-laid, than they could eat high meat. Again, people vary immensely in the amount of breakfast they take. With many breakfast is *the* meal of the day, while with others it consists of a thin slice of toast and a cup of tea. Then there is the old-fashioned substantial English breakfast served early in the morning, and the modern breakfast in the French style—the *déjeuner à la fourchette*—generally taken about twelve o'clock, long after the real fast has been broken on a roll and butter washed down with a cup of good coffee or chocolate. Again, there is the bachelor's breakfast, partaken of at his club, consisting often of devilled kidneys and a brandy-and-soda, or a basin of mulligatawny.

It is not our province here to dilate upon the respective merits of these different meals, or to enter into the subject of which is most wholesome, though perhaps there will be no harm in saying that on the general principle of "Live and let live," there are occasions on which each and every one of them would be legitimate in its way. In the present day persons succeed best who are capable of varying their mode of life to a certain extent. There are certain people who have got into such a fixed routine of living, that if their breakfast-time be varied even to the extent of half an hour, they will be "put out." And in the present day, when so many persons run to and fro upon the earth, it does not do to be too much the "slaves of habit." In travelling abroad, for instance, it is far better to act

on the principle, "When you go to Rome, do as Rome does."

It is time, however, we began to consider the subject of breakfast dishes, and the first thought that strikes us is, Suppose fried bacon by some magical power were suddenly abolished, how many persons would there be who would have no breakfast at all? There is no doubt that with many families there is great difficulty experienced in finding a sufficient variety of dishes for breakfast. This will be observable even at hotels. In how many hotels throughout the United Kingdom will the waiter be found capable of going beyond the list comprised in "Ham and eggs, sir, a nice chop or steak, or a nice fried sole"? Those who travel much by sea will remember the astonishment with which they first contemplated the breakfast bill of fare on board a P. and O. boat or an American liner. Such bills of fare generally contain Irish stew or liver and bacon, as well as such dishes as "twice-laid;" besides which every breakfast, all the year round, finishes up with curry. What a field of thought will this open!

We will run through a few of the chief dishes that are served every day for breakfast in England, and afterwards endeavour to suggest a few more by way of variety.

Fried Bacon.—To begin at the beginning, a few words about fried bacon. There are but few dishes sent to the breakfast-table that vary so much in appearance as this. We can have the thin slice of bacon fried crisp and brown. Many people can take this when they can eat nothing else; and although it sounds a rich dish, a little crisp fried bacon will often tempt those who feel they cannot touch a mouthful. On the other hand, there is the thick slice of bacon, not browned but sodden, sent to table in a dish swimming with melted fat, very often

of a dirty colour. Bacon served in this form is very trying for appetites that may be called delicate or fastidious, however wholesome the dish may be for hungry schoolboys, who will sop their bread in the liquid fat and eat it with a relish. There is no doubt that bacon served this way is very wholesome and nutritious; and children who are incapable of taking cod-liver oil are often recommended to adopt this course as a substitute. In serving fried bacon, the fat that proceeds from it should never be overlooked; and for mixed company it is a very good plan to serve the bacon on a piece of toast, over which the fat can be poured. People can then eat this or not as they like.

The chief point to be borne in mind in cooking bacon is to avoid having the fat black or discoloured. The cause of this is that the cook will too often use a burnt frying-pan, or expose the bacon, in cooking, to too great a heat. Considering how cheap frying-pans are, it is a great pity that housekeepers are not a little more liberal on this point. How often is it that the frying-pan used for frying bacon is a huge, heavy, blackened, worn-out utensil, that wastes, by spoiling food, in every year, ten times the money that would buy a new one! The inside of a frying-pan should be bright tin, not a piece of metal that looks as if it had been blacklead. If any mistresses think that these remarks are unnecessary or exaggerated, let them wait till the servants have gone to bed, then descend to the lower regions, take the large family frying-pan (which in many houses has done duty for almost every purpose for many years), and place this frying-pan over the dying embers in the kitchen grate till it gets thoroughly hot; then take the handkerchief and put it over the finger, rub the bottom of the frying-pan for a second, and observe the colour of the handkerchief. They will then go to bed, if not sadder, certainly wiser; and yet this instrument will be used, just as they found it, to-morrow morning to cook their bacon.

Eggs and Bacon.—The next variety of breakfast dish is eggs and bacon. Fried eggs do not require to be black-edged like a mourning envelope. Of course the reason of this, again, is the frying-pan. Another difficulty in frying eggs is, that they have a tendency to get out of shape, and the whites too often seem to cook in large bubbles. The reason of this is, that there was too much fat in the pan. In frying eggs, you do not require any depth of fat at all. The pan should be just greasy, but should not have any fat swimming in it. Another point to be borne in mind is, not to fry eggs over too fierce a fire. If you do, the under-part of the white will burn, or, at any rate, turn colour, before the yolk and the upper part of the white will set. To fry

eggs to look nice, they must be done slowly; and when finished should be trimmed with a knife, so that the yolk, which should be just set, should be surrounded with an equal rim of white. Most cooks, in frying eggs, break each egg on the edge of the frying-pan, and then, without looking to see if it is good or bad, let it fall into the pan. To fry eggs neatly, it is best to break them first in a cup. When the eggs are set, they require taking up in a slice. Try and get into the habit of using the left hand for this, and not the right. If you have got the slice in your left hand, you can easily trim the egg with a knife in the right. But if you watch a cook, you will often see her take the slice in the right hand, take up the egg in it, and then attempt to trim the egg with a knife in the left hand. The result, artistically, is very similar to that produced by attempting to write a letter in a hurry with the left hand—all ragged. These directions may seem very simple, but many a thousand eggs have been spoilt in appearance owing to the thoughtlessness of the cook, who uses the wrong hand to start with. Persons overrate their powers of using their left hand. If you doubt this, take a corkscrew, and try the effect of putting it into the cork with the left hand.

It is always best to have a careful look at the dish before you place the eggs on the top of the bacon. Nothing looks so untidy as a broken yolk of egg running over the dish. Again, each egg ought to be separate. A dish of eggs and bacon, to say the least, looks most unappetising where the eggs have been fried and have all run and stuck together.

Poached Eggs.—The next point is poaching eggs. As a rule, fried eggs and bacon go best together, and poached eggs and ham. There are few breakfast dishes more tempting than a thick slice cut out of the middle of a real York ham, with plenty of fat, cooked on the gridiron like a steak, slightly brown, on the top of which repose a few well-poached eggs. In poaching eggs, we have to bear in mind the colour; and for this purpose the water in which the eggs are poached should be rendered slightly acid. A squeeze of a lemon, or a few drops of vinegar, are sufficient for this purpose: only, in taking the eggs out of the water, be careful not to let the water settle on the sides of the eggs, as is sometimes done. It is best to tilt the slice, first one way and then the other, to drain the water off, and sometimes to touch the white with a cloth, in order to absorb the moisture. This is very important when you have added a little drop of vinegar to the water. The same directions hold good in taking out poached eggs as in the case of fried. Take the slice in the left hand, and the knife in the right; then slant the

slice, using the knife to prevent the egg from slipping. Then trim the egg neatly round the edge, and, if necessary, touch it with a dry cloth.

When poached eggs are served with ham or fried bacon, they will bear a little more cooking than when served on toast. In serving poached eggs on toast, the latter should be well buttered. A capital breakfast dish is made by serving poached eggs on anchovy toast; and if late hours have been kept over-night, cayenne pepper will often be found a pleasing accompaniment.

Devilled Eggs.—Another charming way of serving eggs under these circumstances is that of devilled eggs. This is a pretty as well as an appetising dish, equally suited for breakfast, luncheon, or supper. They are made as follows:—Take half a dozen eggs and hard-boil them by placing them in cold water; let the water come to the boil, and allow it so to do for five or ten minutes, when the eggs will be done. Now take out the eggs, and throw them, shell and all, into cold water for about a minute. You will then be able to remove the shells easily without hurting the fingers, but the eggs themselves will still be hot. Now cut each egg in half, and take out the yolks; put them into a basin and add sufficient butter, while they are hot, to make them into a soft paste. Now add a dessert-spoonful of anchovy sauce—remembering first to shake the bottle well—and about a salt-spoonful of cayenne pepper. The amount of cayenne will vary somewhat with the depravity of the eaters. The empty whites will, of course, now form twelve cups. Cut off the end of each cup, so that it stands upright, and fill each cup with this mixture, which can be piled up into the shape of a cone, as of course, owing to the addition of the sauce, butter, &c., there will be more than enough to fill them flat. These devilled eggs can be served either hot or cold, but they are generally preferred cold. The eggs look very pretty, especially when placed in a silver dish, a piece of white paper being put at the bottom. A little coarsely chopped parsley can be shaken over them, and the little pieces of white cut off when trimming them can be chopped up and mixed with the parsley, and may be coloured partly pink by being shaken in a saucer with a few drops of cochineal, which will add materially to the pretty appearance of the dish.

Curried Eggs.—This is another way of serving these useful articles of food for any of the three meals we are now discussing. Very often after a dish of curry a good deal of the gravy or curry sauce is left, which, though insufficient to serve with another dish of meat, is yet too much to be thrown away.

This makes a very nice little breakfast dish. Boil some eggs hard, and take out the yolks whole, which will appear like a yellow ball. Cut the whites in rings, and pile these rings up in the middle of a dish; pour the curry sauce over them, and place the egg-balls round the eggs as a garnish. This is a very appetising breakfast dish, and, if any curry sauce has been left from the day before, is a very cheap and quick one.

There are many other ways of cooking eggs, but very few worthy of notice, except "Eggs and Black Butter," the recipe for making which sauce will be found in the chapter on "Soups and Sauces." We must not, however, omit to mention that prince of breakfast and luncheon dishes, known as the "Savoury Omelette." The way to make and cook it was described in a previous article.

Kidneys.—Kidneys, whether served with bacon or plain, as served on toast, always form a popular dish. Perhaps some readers may remember the scene in the play called *The Old Love and the New*, where the elderly gentleman, who keeps such late hours, and orders devilled kidneys for his breakfast, is roused by his servant respectfully whispering to him, "The devil is waiting for you, sir." Kidneys can be either grilled or fried. The chief point to be borne in mind in cooking them is to keep in the gravy. If they are cut open, the two halves should be held together by the piece of white skin. The best way of all to cook them is not to cut them at all, but simply to brown them outside, and then place them on a piece of hot buttered toast. When they are cut, red gravy should run out of the middle; they should also be soft and red-looking inside. Some persons prefer them cooked thoroughly, so that when they are cut they have a white appearance like leather. This only shows there is no accounting for tastes.

Devilled Dishes.—Devilled kidneys are cooked in a variety of ways. The chief point to be remembered in devilling anything is that some of the mixture of pepper, mustard, &c., should be added before cooking. Cooks are too apt to imagine that in devilling, say, a chop, or bone, or kidney, by simply sprinkling cayenne pepper over them when they are cooked they have done all that is necessary. The kidney should be peppered *before* it is cooked; and in the case of bones, such as the drumsticks of fowls or turkeys, some of the devilling mixture should be inserted in the meat itself. In the case of devilled kidneys, the kidney should be sprinkled with cayenne pepper, mixed with black pepper, before it is cooked, and some kind of devilled sauce should be poured over it afterwards. First of all, we will describe

how to devil the legs of birds, and also how to make that very appetising dish, a devilled chop. We will take the case of a devilled chop first. The chop must be grilled; it should be a loin chop, and cut thick, and have plenty of fat, if possible, near the under-cut. The chop must be at least an inch thick. First of all pepper it well all over with cayenne pepper, and then black pepper. Now, as this pepper is going to be exposed to the action of the heat, the chop will bear a good deal more than some people will think for. Next grill the chop over a clear fire, and get it a rich brown colour all over, including the fat. The fat must appear like the outside of a well-cooked leg of mutton, and must not be white in appearance. When the chop is done—and it should be red inside, but not blue—a little devilled mixture may be poured over it as follows:—Take a piece of butter, about as much as will go into a dessert-spoon piled up, and melt it in the oven by putting it into a teacup or little basin. Now add to it two teaspoonfuls of thick fresh-made mustard, about half a teaspoonful of cayenne pepper, and a saltspoonful of well shaken-up Worcester sauce. Of course, as the butter gets colder this sauce gets thicker. Pour this over the chop.

This same mixture does very well for kidneys, only leave out the Worcester sauce, as the flavour of that does not go well with kidneys.

In the case of devilling drumsticks of fowls or of turkey, French mustard is essential. Suppose we have the drumstick of a turkey. Proceed as follows:—Take about a dessert-spoonful of French mustard, and add it to an equal quantity of butter and nearly a saltspoonful of cayenne pepper. With a knife cut gashes down the drumstick, right down to the bone, from one end to the other, so that the point of the knife touches the bone, the knife being held at right angles to the bone. With the fingers open these cuts, and with an ivory paper-knife insert some of the devilled mixture. In the case of a thick drumstick of a turkey, you might make nearly a dozen incisions; only take care you don't cut slices of meat right out. Now spread the remainder of the mixture over the outside of the meat, and grill the bone over a clear fire. This takes a long time, and if you are not careful you will get the outside hot and burnt, while the meat near the bone will be cold; consequently, at starting, keep the gridiron high up from the fire, and when you think the leg is hot right through, lower the gridiron, and then cause a flame to arise from the fire by throwing in little bits of fat or dripping. The pieces of flap or skin, and the edges of the drumstick, should be burnt black. When the drumstick has been (by means of this blaze) made of a rich brown colour, with blackened edges, take it off the gridiron, and dip a paste-brush

in some oiled butter, *i.e.*, butter that has been melted in a cup or saucer in the oven, and paint the drumstick all over. This greatly improves its appearance, and renders it more appetising.

If you like, some devilled sauce can be served with these devilled drumsticks. The best devilled sauce is made as follows:—Chop up some onions (small spring onions are by far the best), and fry them in a little butter till they begin to turn brown. Now add a table-spoonful of Harvey's sauce and a teaspoonful of Worcester sauce, and let this boil in the frying-pan for a minute or two in order that the vinegar may evaporate. Then add a quarter of a pint of good gravy, half a saltspoonful of cayenne pepper, and half a saltspoonful of black pepper. In order to make it more rich, dissolve in it a teaspoonful of extract of meat. If the gravy is thin, thicken the whole with a little corn-flour. Serve it all together, with the chopped onion, and pour it over any grilled meat.

Cured Fish.—A bloater is one of the most favourite and common dishes at breakfast. With many persons the chief drawback to the fish is its strong aroma. Many persons cook bloaters whole, but it will be found a far better plan to split them before cooking them. When bloaters are cooked whole, they have to be opened on the plate, and the result is a strong whiff of what we delicately call "beautiful aroma." But if they are first split open and cooked on the gridiron slowly, the very strong smell is partially got rid of. When bloaters are cooked this way, it is generally best to remove the bone before cooking them; and when they are cooked, of course they are dry in appearance. Before sending them to table, therefore, take a piece of butter on the end of a knife and spread it over, so as to make them look oily.

At bachelors' dinner-parties, served at a club where the claret is good, it is a very common thing to serve a bloater as a last course at dinner, as it gives a zest to the Château Margaux and Château Lafitte that follow. Sometimes a dinner will finish with bloaters' roes on toast—of course, soft roes. The roes should be cooked first, and placed on a long strip of well-made hot toast. Cut lemon should be served with them, as with white-bait.

Bloaters form a good breakfast dish, and at times a supper dish, but are very unsuited for luncheon. Haddock, again, is essentially a breakfast dish. Haddocks should be chosen more with reference to their thickness than their length and width. A thin one is sure to be inferior. Haddocks should be boiled first, then placed in the oven to get hot and dry, and afterwards made to look shiny by means of a little butter.

Twice-Laid.—A very nice dish is made from haddock, known as “twice-laid,” and is a very popular dish on board ship, where, of course, fresh fish is difficult to obtain, otherwise than that which has been kept in ice. In making “twice-laid,” first of all soak the fish in water, boil it, and then remove all the flesh from the bones with a fork, keeping the flesh as much as possible in flakes. While the fish is still hot, mix it with some butter, and add, say, a teaspoonful of anchovy sauce to a quantity that will eventually fill an ordinary jelly-mould. Mix the fish with about half its quantity of the remains of some boiled potatoes. Season with plenty of pepper, and press the whole into a well-buttered mould. Make the mould hot, and then turn it out, and ornament the base of the dish with some hard-boiled eggs cut in halves. This is a capital dish for breakfast.

Sausages.—There is one breakfast dish which is almost always popular, and that is pork sausages. Perhaps the most important point of all in sausages is to know who made them, and the material from which they were made. Of course it is not impossible to get really good sausages, but a great deal of harm is done, especially among the poor, by persons regaling themselves upon what Sir Henry Thompson calls “the uncertified sausage.” How often will you find that bought sausages, when cooked, look red! We do not mean by red, that they are not sufficiently cooked, but red owing to the meat from which they are made being coloured. And yet these sausages are often sold as pork sausages. The reason is obvious to anyone who understands the principles of cookery. Such so-called pork sausages are made from pork that has been mixed with the beef taken from what we may term the refuse of the butcher’s pickle-tub. Remember, first of all, that salt beef is cheaper than fresh, and it stands to reason that no butcher would put a piece of beef in a pickle-tub before he was obliged; consequently beef (salted) is made from beef that has been kept “long enough.” The result of putting beef into the pickle-tub is to turn it red. If you have a piece of beef—say, silverside—that has been in the pickle-tub for three or four days, you will find, on eating it, that it is a piece of ordinary meat surrounded by a red rim. If the piece were kept in the pickle long enough, it would turn red right through. This redness is caused by the saltpetre which is placed in the pickle. Now this red beef is generally used up and mixed with pork to make sausages; there is very little nourishment in it, and it is decidedly unwholesome. This accounts for any redness of so-called pork sausage. A good, genuine pork sausage when cut across looks like meat; and

sausages, to be good, should be made from perfectly fresh meat, *i.e.*, that which has been recently killed. If the pig is killed on Thursday, make the sausages on Friday; and, on cutting up a pig, there are of course considerable odds and ends, by way of lean and fat, all of which can be turned to account. The best sausages of all are made from a leg of pork. And there is a great satisfaction in making sausages at home. Indeed, a sausage-machine is essential to a well-furnished kitchen, and a small one can be bought for a few shillings, and will amply repay its cost before the year is out, as it can be used for other purposes besides that of making sausages. For instance, suppose you have the remains of a cold fowl and cold bacon, what delicious rissoles can be made by means of a sausage-machine, with the assistance of a tin of mushrooms!

To make sausages at home, proceed as follows:—Take one pound of lean to half a pound of fat of freshly killed meat, and cut them up into small pieces with a knife and fork, and put them in a basin with a teaspoonful of salt, a teaspoonful of pepper, and some flavouring. Now a good deal depends upon this flavouring. Some persons prefer one kind, and some another. The two chief flavourings are sage-leaves and marjoram. You can have these separate or mixed, and, in addition, you can add spice. A good many people use mace. Personally—and one must be personal at times—we prefer nutmeg, but of course this is purely a matter of taste. Again, you can have the addition of a little lemon-peel. Once more we will be personal, and add, we don’t believe in lemon-peel. However, you can try a mixture as follows:—To a pound of lean and half a pound of fat, a teaspoonful of salt and a teaspoonful of pepper; add half a teaspoonful of dried marjoram, one-third of a small nutmeg (grated), one-sixth of the rind of a lemon, and four good-sized fresh sage-leaves, or double that number of dried leaves. The lemon-peel and sage-leaves must be chopped very fine indeed; the whole must be mixed together in the basin *before* it is sent through the sausage-machine, as by this means, and only by this means, can you get the sausage-meat flavoured uniformly. Some persons send the meat through the machine, and then add the flavouring afterwards, but no amount of mixing will be found equal to the simple plan of adding the flavouring at starting.

In making sausages it is best to consult the individual tastes of the eaters. Sausages can be flavoured with marjoram only, or sage-leaves only; and in the opinion of the best judges of good cheer, this is best. It will be found that when you flavour sausages with marjoram you can add rind of lemon, and perhaps an extra dose of pepper and nutmeg. When

you flavour with sage-leaves only, do not put in any lemon-peel at all. It is on the same principle that in making veal-stuffing, when of course you use marjoram, you also use lemon-peel. With many persons sausages flavoured with marjoram and lemon-peel, although very nice at the time, will have a tendency to rise afterwards, and they can be varied in flavour. You can put thyme, which is a very powerful one; and for many persons you can add with advantage—"Oh, horror!"—garlic. This must be used with caution, however. Have you ever tasted the garlic-made sausage to be obtained in Germany and in Italy? It is very nice at the time, but the after-effects are awful. Perhaps the purest taste is that which prefers sausages almost unflavoured, on that highest principle of taste which tells us that "Beauty unadorned is adorned the most." On the other hand, if you make sausages from the remains of a cold leg of pork—and remember that these are very good, nice, and wholesome—you cannot expect the result to be equal to that to be obtained from using fresh-killed meat, and consequently you must use extra flavouring, and your motto should be like that of the picman in *Pickwick*, "It's the seasoning as does it."

When the sausage-meat is made, you can roll it up into balls, or you can place the meat in skins. It is very important that these skins, which you can obtain from the butcher, should be perfectly fresh and thoroughly cleaned. As a rule, home-made sausages are better without skins. Don't make the balls too large; and when made, roll them in flour, and then cook them *very slowly*. The great art of cooking sausage-meat is to cook it thoroughly, without drying the meat up. A very good method of cooking sausages in skins is to follow the example of those cheap shops, where you see the sausages in the window boiling in fat, very often accompanied with a large quantity of fried onions in another dish. They make an excellent meal with an accompaniment of mashed potatoes. To thoroughly enjoy them, however, you want a good digestion, with an easy conscience and a trustful nature.

Potted Meat.—Potted meat is a standard dish for breakfast, luncheon, and supper. There are few things that vary so much as potted meat; you can have high-class potted game on the one side, or potted beef, made from the fag end of a piece of silver-side of beef, that looks hard and dry on the upper side, and white, crinkly, and greasy on the other. Indeed, you can make very decent potted meat from the refuse of the shin of beef you have remaining from making beef-tea. Here let us add once more, "It's the seasoning as does it." Perhaps some of you are not aware what excellent potted

meat (which, when made well, tastes like potted game) can be made from the remains of cold liver and bacon. If you have never tried it, let us urge upon you an experiment. Send the liver and bacon, after cutting it up small, through the sausage-machine, and then add to it, say, half a pound of calf's liver, two beads of garlic, and a small teaspoonful of aromatic flavouring herbs, which we have before described. These herbs are sold in bottles under the name of "Herbaceous Mixtures," and can be obtained from all respectable grocers; but we will repeat the directions once more as to how to make them at home:—Two ounces of white pepper-corns, two ounces of cloves, one ounce of sweet basil, one ounce of powdered nutmeg, one ounce of marjoram, one ounce of mace, one ounce of thyme, and half an ounce of powdered bay-leaves. These should be thoroughly dried, pounded in a mortar, then sifted, and put by in a glass-stoppered bottle for use. This potted liver and bacon will taste very much like potted game when flavoured with these herbs. It is a great improvement to add to them some mushrooms, and they can be mixed with the white meat of fowl or rabbit, when it makes an excellent imitation game-pie, as already mentioned. When the whole is done, press the meat down in a pie-dish, and cover the top with clarified butter.

First-class potted game is made by simply passing the meat of, say a pheasant, through a sausage-machine, mixing it with about half its quantity of clarified butter, and flavouring the whole with nothing except a little grated nutmeg. When you have real game, the endeavour should be to preserve the flavour; and to add these aromatic herbs to *real* game would be as foolish as to attempt to paint the lily or to refine fine gold.

In making potted beef, the chief point to be observed is the butter. Potted beef by itself would be very dry, and it is the addition of the butter which makes it expensive. Potted beef requires the addition of a little cayenne pepper, grated nutmeg, and powdered bay-leaves; also a little strong stock, which, when cold, forms a very hard jelly, would be found an improvement. Some persons add anchovy sauce; and you will often find the potted meat sold at pastrycooks' looks red. The worst of this is that you can taste nothing but anchovy; and many of the potted meats sold in tins, owing to this admixture, taste alike, and it is very difficult to detect the difference in flavour between potted ham, potted beef, potted tongue, &c. The only apparent difference is the printed label across the tin.

Potted ham is usually made at home from the remains of a ham that is too much cut into to send to table any longer with decency. If the ham has

been smoked, it is very difficult to get rid of the smoky flavour. In potted ham you should use about one pound of lean to about a quarter of a pound of fat; and you will often find, when a ham has been well cut into, there is very little fat left. When this is the case, you can supply the deficiency by boiling a piece of fat bacon on purpose; and it is as well to bear this in mind, as you can by this means use up the remains of a large ham which is all lean, except a little of the fat which is rusty and no good. Plenty of butter will do instead of fat, but then the butter is rather expensive. Potted ham is best flavoured with nutmeg, and can also be flavoured with powdered bay-leaves.

Potted lobster is a very nice dish for breakfast, luncheon, and supper, and the coral of the lobster should be pounded with some butter, and will make the whole a brilliant red colour when finished. The meat of the lobster should be pounded in a mortar, together with four filleted anchovies to every pound of lobster-meat. This will be found far superior to adding anchovy sauce. To every pound of lobster-meat you should add about one-third of a pound of butter. The whole should be flavoured with powdered nutmeg, cayenne pepper, and white pepper. If the potted lobster is going to be eaten immediately, a very little pepper and spice will be sufficient; but if you wish to keep it some time, you will add the spice and pepper in larger quantities, in order to preserve it. After the lobster-flesh and butter have been well pounded in the mortar, you should rub the whole through a wire sieve with a wooden spoon; then press it down in a small pie-dish, or whatever pot you are going to serve the meat in, make it hot in the oven, press it down as tight as you can, and pour some clarified butter over the top.

Bloaters are very nice potted. Scald the bloaters first—suppose we have half a dozen—then skin and bone them, and mix the meat with about half a pound of clarified butter, and season them with nutmeg or cayenne pepper, or both mixed; pound them in a mortar, rub them through a wire sieve, make the mixture hot in the oven, press it down, and cover with clarified butter as before.

Remains of cold salmon can be potted in a similar manner. This will require a good deal of butter, nutmeg, and a little anchovy sauce; only take care the anchovy sauce does not overpower the flavour of the salmon.

The potted meats sold in tins have already been treated of. Brawn can also be bought in tins, as well as at shops where it is made fresh. Brawn can be made at home, but it hardly repays you the trouble. The probability is that if you buy it, it will not only be cheaper, but better.

Cold Delicacies.—We will now run through a few of the cold delicacies that can be served at breakfast, luncheon, and supper. Sardines are very nice for a change, and they could be served simply in the tin, and, owing to their being preserved in oil, there is no harm in keeping them in the tin; but lemon and a little cayenne pepper should be served with sardines. They can also be made hot and served on toast; but by far the nicest way is to serve them cold. We have already described how to make a dish of curry out of sardines. Pilchards preserved in oil make a still better dish of curry.

One of the greatest delicacies and one of the most appetising dishes that can be served at any of the meals we are now discussing is smoked salmon. Smoked salmon varies immensely in quality. At some places you will see it marked up as low as 1s. per pound. This is, as a rule, salt and uneatable. The best genuine smoked salmon usually runs into about 3s. 6d. per pound. It should be cut extremely thin, with a very sharp knife, and is one of the very few substances that once lived, and moved, and had a being, that can be recommended to be eaten raw. This smoked salmon can be eaten just as it is, with thin bread-and-butter. It can also be used for the purpose of making a salad. It is also very nice made simply warm. All it needs is being made hot through. When raw, it is semi-transparent; when cooked, it is opaque. In Germany a great deal of flesh-meat is smoked and eaten raw, as well as fish. A Dutch salad contains raw herring, and a great many of the German sausages are made from smoked but uncooked pork—hence the prevalence of trichinosis. The famous Lyons sausage is supposed to be made from donkey-flesh. The manufacture is virtually a secret, but in the opinion of most good judges it ranks first in the list of sausages. The secret of having it nice is a sharp knife, which will enable you to cut it as thin as a £5 note. A little goes a very long way, and recalls the traditional Vauxhall slices remembered by our grandfathers. It used to be a boast of the carver at that long-since defunct place known as the Vauxhall Gardens, in the good old days when outdoor amusements were respectable, and children were carried there in their nurse's arms, that he could cover a plate with a quarter of an ounce of beef. Of late years a revival has taken place of outdoor feeding, at places like the Fisheries, the Healtheries, &c.: but were two persons to sit down to eat an ice off a little table, placed on the pavement outside a shop-door, they would probably be taken into custody for disorderly conduct, and receive a punishment on a par with that usually given to some man who throws his wife out of a two-pair back window, and is fined 5s. and costs.

One of the nicest sausages is Brunswick sausage. The retail price is usually 2s. per pound. This ought to be cut very thin, and it goes a considerable way. They are long and rather thick, and very useful in travelling. There are few better travelling companions than a Brunswick sausage and a pocket-knife. You can go into a railway refreshment-room and buy a roll and butter, break the roll in half (sideways), put two pats of butter between the crumb, place the two pieces together, wrap it up in a piece of paper, return to your railway carriage, and, with the assistance of the sausage, enjoy a wholesome meal. This, as a rule, will be found better, especially after a ten hours' journey, than making a richer repast off Banbury cakes and butter-scotch. Sausages are also sold in tins. The sausage, surrounded by fat, is placed in the tin, which is hermetically sealed, and, of course, keeps good for ever. There are also Westphalia sausages, sold in tins. The gigantic German sausage, in a red skin, and red inside as well as out, is composed of—well, there is a song in which one of the lines is,

“What's the contents of a German sausage?
That beats me”—

sung to the tune of “While the moon her watch is keeping, All through the night.” Probably the contents are the refuse of the pickle-tub (which accounts for the red colour) and bread. There is an old riddle, “Why is my dog like a German sausage?” the answer being “Because he is half bread.”

Let us turn from these horrors to that prince of dishes known as *pâté de foie gras*. We must, however, before we indulge in this delicacy, shut our eyes to the dark dungeons where unheard-of and unmentionable cruelties are inflicted upon the unfortunate geese that supply the livers from which this dish is composed. These atrocities are not imaginary, but stern realities; and there are many, thank Heaven! who refuse to touch this delicacy on that account. *Pâté de foie gras* is, however, extremely nice, either when served alone with bread, or perhaps still better, when thin slices are placed side by side with equally thin slices of the white meat cut off the breast of a fowl or turkey. The dish can be ornamented with aspic jelly and green parsley. Slices of *pâté de foie gras*, or, still better, *foie gras* entire, can also be served by being embedded in the mould of aspic jelly, as formerly described. Somewhat similar delicacies are also sold in tins under the names of truffled snip: *pluviers*, partridges, larks, woodcocks, &c. Tunny-fish, or the *thon marin* of the Continent, is another delicacy highly prized by epicures. It requires the addition of some perfectly pure olive oil. In opening any of these tins (we do not refer, of course, to the tunny-

fish, but to the *pâté de foie gras* and truffle of game) you will find the outside covered with a rich yellow grease something like yellow butter in hot weather. This grease should be scraped off, but not thrown away. The contents of the tin should be turned out on to a dish, and ornamented with parsley. This yellow grease is strongly impregnated with the flavour of truffles: and if you are making a small dish of rissoles from the remains of some cold fowl or turkey, with the assistance of some cold ham or bacon, and a tin of mushrooms, if you mix it in with the dish, it will greatly improve it in flavour; or it could be used to mix with a dish of minced fowl or turkey. It will not, however, mix with butchers' meat.

Sandwiches.—For luncheon and supper there are few better dishes than really good well-cut sandwiches: and these would probably be more popular than they are, were it not that those sold at railway station refreshment-rooms have naturally set a large number of persons against them. The highest-class sandwiches of all are made as follows:—Cut some thin slices of close bread free from holes, and fry them a light, bright, golden colour, in some smoking-hot fat. Take them out and let them drain. They should, in appearance, be something like rusks, only thinner and lighter. Next get some cold béchamel sauce, spread a thin layer of this on the slices of bread, and place between them some very thin slices of the white meat of the breast of a turkey, and an equally thin slice of cold tongue. These should then be piled up on a napkin, and placed in a silver dish. A variety of sandwiches can be made by using thin slices of fried bread and placing between them other kinds of meat. For instance, we can have anchovy sandwiches, made by chopping up very fine some filleted anchovies, and sprinkling these little pieces on some slices of hard-boiled eggs. Again, we can have lobster sandwiches, made by pounding the flesh of a lobster with a pestle and mortar, exactly in the same way as if we were going to make lobster cutlets—only, in making sandwiches, leave out the little pieces of onion. Here the bread should be spread with a little mayonnaise sauce instead of béchamel. Plain egg sandwiches are very nice, and ordinary butter can be used for the fried bread, and a layer of mustard-and-cress sprinkled over each piece, with slices of hard-boiled eggs placed between them. The edges will want trimming, as the mustard-and-cress will, of course, stick out. Amateur cooks will find a pair of scissors by far more convenient than a knife. Tomato sandwiches are very nice. Tomatoes must be cut thin, and the pieces dipped in a little oil and vinegar, with pepper and salt. Again, we can have

sardine sandwiches, the sardines being opened and boned, and a few drops of lemon-juice and a very little cayenne pepper added to each.

At supper-parties where the guests are regaled with what are known as light refreshments, a side-board can be made to look very pretty by having a few of these dishes of sandwiches placed side by side. The fact of the bread being fried, a light golden-brown colour of course, gives a finished appearance to the dish. The sandwiches should be piled up in a pyramid shape, and ornamented with parsley. A thick broad border of parsley should be placed round the base of each dish, and this border can be ornamented very prettily; and at the same time the contents of each dish will be made known. For instance, round the base of the anchovy sandwiches can be placed a few whole anchovies, like a salmon or trout as sometimes seen in a fishmonger's window reposing peacefully on a bed of fennel. A few hard-boiled eggs, cut in half, could be placed on the green parsley round the bottom of the dish containing the egg sandwiches. The dish containing the turkey-and-tongue sandwiches can be ornamented by placing slices of white turkey and red tongue alternately on the top of the parsley, a little way apart; and these slices should be cut out with an ornamental cutter in the shape of cocks' combs. The lobster sandwiches will also look pretty, and their contents be made manifest, by placing a few little red cray-fish round the base. Again, tomato sandwiches will look very pretty, and be equally explained, by the presence of a few small bright red tomatoes, placed in the green parsley. And of course the sardine sandwiches only require sardines round the base, just as the anchovy sandwiches require anchovies. The egg and mustard-and-cress sandwiches can have a border of mustard-and-cress round the base instead of parsley, and slices of egg can be placed on the mustard-and-cress in order to denote the contents of the dish.

There are many other sandwiches that can be made, such as cold salmon and smoked salmon. Both these would require mayonnaise sauce on the fried bread instead of butter. Chicken sandwiches can be ornamented with the wings of the chicken, boned and all—cut short for the purpose of preserving the white meat for the sandwiches—glazed to a rich mahogany-brown colour. You can also make sandwiches of anchovy paste and every kind of potted meat, besides the more common beef and ham. If a sideboard be covered with a snow-white cloth, and silver dishes placed on it, a very pretty effect is produced, especially if the sideboard has a tall looking-glass at the back, and the light is thrown on the dishes from two-branch silver candlesticks, in which are placed wax candles shaded from the eye

with tinted shades, which throw the light (soft and subdued) downwards. These sandwiches should be washed down with some good dry pale sherry; some first-class champagne, not iced, but sufficiently cold to do away with the barbarous necessity of placing a lump of ice in the glass; or, in default of these beverages, some good bright bitter beer, or any temperance drinks as preferred.

The chief drawback to sandwiches, when made in this way, is that they are too popular, and, consequently, no amount of foresight will enable you to provide enough. If the resources of the establishment will allow, it is a great improvement to have relays of these dishes of sandwiches put by in an ice-chest, from whence they can be taken cool, comforting, and satisfying. How far superior is a supper of this description to any amount of pretty-looking sweets, which no one cares to eat!

Suppers for Parties.—This kind of supper is not, however, adapted to a children's party, although children in the present day differ so materially in tastes and habits from what they were fifty years ago, that there are probably many dissipated young men of twelve, and little "girls of the period" at ten, who would prefer a supper of devilled anchovies and bitter ale to the more ancient one of seed-cake and ginger-beer. There was a small cartoon that appeared in *Punch* a short time back that illustrated this idea. A little boy, apparently not more than eight or nine years old, is drawn seated in a large armchair. He reels well back, and has his legs crossed with all the ease and air of his grandfather. His elder sister says, "Now, Charlie, you had better have a piece of cake and go to bed." Whereupon the young gentleman replies, "I should like some lobster salad and champagne." There is no doubt that sweets, properly so called, are not eaten by children with the same relish that they were years ago. Probably the tastes vary with the brain. The extraordinary development of children's brains in the present day must of necessity have a reflex action on the stomach. Boys and girls in the present age are in many respects better educated than their fathers and grandfathers were, even when middle-aged men and women; and there are many boys at fourteen who know more mathematics than a wrangler at Cambridge in the last century. In giving, therefore, what may be termed a children's supper-party—or rather, let us say, in preparing supper for a children's party—let us act on the one and only principle of hospitality, and that is, to please our little guests. Healthy children have good appetites, and after a few hours' dancing and romping, want a substantial meal.

To begin supper, there is nothing better than

cold roast fowl, or cold roast beef or ham. The roast fowls should be glazed, which will make them of a bright mahogany colour. The wings and legs should then be cut off, and the fowl put together again and tied up with a piece of white silk ribbon, rather narrow. A very little of the glaze will help to stick the joints together. The fowls can also be ornamented with a few flowers cut out of beetroot or turnip. Boiled fowls should be masked over with some white sauce, which forms a jelly when it is cold. The red flowers, surrounded by a couple of bay-leaves, will ornament the white fowls; while a white flower, the edges of which have been tinged pink with cochineal, and also surrounded by a couple of leaves, will best decorate the roast fowls. Thin slices of cold ham can be placed round the dish, and the advantage of having the fowls already cut up is that the children are helped very quickly; and by taking the common-sense precaution of helping the youngest first, things will go smoothly. In addition to fowl and ham, we can, of course, have cold beef, as well as salad; and in the present day there are some, though not the majority, who prefer the beef to poultry, especially among the elder boys, who ask for it because they will be thought more manly. Boys of sixteen or seventeen, but who do not look more than thirteen, often feel their condition keenly.

Boned Turkey.—One of the finest dishes for supper is a turkey that has been boned and stuffed with a large tongue and forcemeat. This is a very difficult affair; but we will explain in another chapter how it is done, as it is extremely expensive to buy. A turkey stuffed with truffle is always considered one of the greatest delicacies that can be sent to table. Sir Henry Thompson, in his well-known book entitled "Food and Feeding," refers to this delicacy, and recommends the plan of sending over to Paris to have the turkey sent ready stuffed. In speaking of it he states, "It is not suggested that this should be prepared at home, but obtained only during the season of fresh truffles from France. Stuffed on its native soil with native produce, it forms a very important addition to a dinner, and stamps it with a rare distinction. There is no difficulty in procuring truffled poultry of any size by rail direct from Paris, when the indulgence of a little extravagance is to be permitted; but even this trouble is not necessary, since a few first-rate London poulterers import fresh truffles, and will furnish a fine Dorking fowl properly stuffed, the quantity used determining in any case the cost of the dish." The poulterers in London who are capable of boning a turkey properly are, however, few and far between, and in the country are probably unknown.

Galantine.—A somewhat similar dish to boned turkey, though not so in appearance, is galantine, especially when made of fowl or turkey. You can have galantine not only of fowl or turkey, but of geese, partridges, pheasants, &c. Galantine of game is a very expensive but delicious dish. Ordinary galantine is very often made of veal, rolled. We will attempt to describe how to make galantine from a long piece of veal, cut somewhat thin, so that it will form the outside that can be rolled. When galantine is made from fowl, the fowl is cut down the back and boned that way, as, when the dish is completed, it is in appearance like a large pin-cushion, or perhaps it will be better described by saying that it is like a short thick-set suet pudding, a sort of cross between a roly-poly and a round one; in fact, a sort of bolster. In making galantine, you ought, properly speaking, to have truffles, and a few will go a long way. You can also have pistachio kernels. These must be treated like almonds—skinned. They are of a bright green, and set off the appearance of the dish. The truffles and pistachio kernels can be mixed with the forcemeat; but of course you can make galantine without, thereby lessening the expense enormously. To make galantine, the first thing is to prepare the forcemeat as follows:—Take equal quantities of veal (choosing the white part) and fat bacon, and flavour them with mushrooms, parsley, pepper and salt, and some of the aromatic herbs we have often before mentioned. These flavouring herbs are sold in bottles under the name of "Herbaceous Mixtures." We believe that Francatelli gave the original recipe to Messrs. Crosse and Blackwell. The whole must be pounded in a mortar with some yolks of eggs. Two pounds of veal and bacon mixed would take three yolks. Next you must get a red tongue, and also some fat bacon, and cut these into strips about three-eighths of an inch square. You then spread the forcemeat on the veal, and place these strips of bacon and tongue on it lengthwise, and then roll the whole up very tight. If the whole were put inside a fowl, you would have to stitch the back of the fowl up with a needle and cotton, in long large stitches, going deep into the flesh, and pull out these stitches after it has got stone-cold. When the whole has been rolled up in a cloth (tightly), which should be twisted at each corner, and then tied round with a string very tightly, the galantine should be placed in some really good stock to boil. The stock should be of that nature that when it is cold it will form a very hard jelly, and generally in making galantine the stock in which it is boiled is used for making the aspic jelly with which the galantine is afterwards ornamented. Like the boned turkey, it is very important that the galantine should not boil, but only simmer; and it is

equally important that it should get cold in the strong stock in which it is boiled—otherwise the goodness would run out of it and spoil it. When it has got quite cold, it can be taken out of the cloth, wiped over with a hot cloth, and glazed brown; or, perhaps better still, covered over with some béchamel sauce, and then ornamented with bright aspic jelly. Of course, if truffles and pistachio kernels have been added, when the galantine is cut it presents the appearance of a slice of white meat, composed chiefly of veal or chicken and forcemeat, in which at intervals appear little red squares of tongue, little white squares of bacon, besides little spots of green and little patches of black. There are few dishes that can be supplied for breakfast, luncheon, or supper that are more popular. As soon as the galantine is taken out of the stock in which it is boiled (nearly cold, but not quite cold, or it would be a hard jelly), it should be placed between two dishes to get cold, and a rather heavy weight placed on the top dish. It is this pressure that very often gives it much the appearance of a pin-cushion.

Supper Sweets.—Many persons still think that the most important part of a children's supper is the sweets. This may be so, but the tendency of the age is for the old people to sit down and sup off sweets, while little ones will sup later on off grilled bones and devilled kidneys after the old people have been sent to bed! There is no doubt whatever about the sweets the children like best. To begin with, the sweet that ranks first is trifle. This has already been described. Next comes, undoubtedly, tinsy-cake. This also has been treated. Perhaps next in order will come jelly, unless you have some of those long cones filled with a species of cream. Of course, ices are popular; but then ices should not be served in the middle of a substantial supper, or even at the end. If the evening's festivities began with tea, cake, and bread-and-butter, you will find that a very large amount of bread-and-butter will have been eaten if cut very thin. The bread-and-butter must be literally like a wafer, and it is perfectly wonderful what a lot you will have to cut; and it is another sign of the age to observe that often the plum-cake will be neglected. Of course, coffee, cocoa, and chocolate will always be preferred to tea. An ice in the course of the evening will always be a pleasing variety. The sweets that will be most neglected will be the corn-flour puddings, which, notwithstanding the cunning device of making them pink with cochineal, will not go down. So, too, with the jam-tarts. These are nothing like so popular as they were years ago. The twelfth-cake or plum-cake has, to a great extent, seen its day; and as to seed-cake, a well-bred child would scorn it as Mrs. Gamp

scorned hashed mutton. Almonds and raisins are still useful among children for pocketing purposes. Custard still has its lovers; and among fruit pies perhaps the most popular will be found the green-gage and currant-and-raspberry. Real cream will always be acceptable; but, as we have said before, the two staple popular dishes are trifle and tinsy-cake. Perhaps the best test of hospitality would be to give a supper where some of the trifles is left over. Can any of you recollect an instance in the course of your lives?

There is one chief point that we have not hitherto mentioned in regard to children's suppers, and one which, fortunately, takes a great weight off the mind when we come to consider the all-important point of appearances. We refer to crackers. These in the present day—like Christmas cards—are so beautiful and so cheap that they can be used to ornament almost every dish on the table except the meats, for which they are unsuited. A large round glass dish can be filled with oranges, which can be piled up high, like a cone, and crackers can be placed round the base. The oranges themselves are very pretty to look at, and will very rarely be eaten, but the crackers will all be pulled.

But we must bring the subject of breakfast, luncheon, and supper dishes to a close. The first of these meals is essentially a family one. Breakfast-parties, except up at the Universities, or similar bachelor establishments in the Temple, are rarely met with; and even wedding breakfasts are almost things of the past. There is something very comfortable about a well-laid breakfast-table in a cosy room with a Turkey carpet and a bright fire, where the sideboard is ornamented by a juicy ham and a piece of cold roast ribs of beef, that is in itself a picture. The eggs should be new-laid and even milky. The muffins should be hot and well saturated in butter, for it is as well to bear in mind that muffins are incompatible with economy. One or two bright silver dishes can afterwards reveal such treasures as ham and eggs, kidneys on toast, crisp bacon, sausages (either plain or curried); and curried sausages make a capital breakfast dish. A nice game pie can assist appearances, especially if the plumage of the pheasant, in the shape of a couple of wings, hovers over the dish. Then, again, what can be nicer for breakfast than a well-grilled sole, not fried in egg and bread-crumbs, or covered with the worse abomination of batter, but simply floured and cooked on the gridiron (but when cooked, oh! don't forget the little piece of fresh butter to be rubbed over it, which makes it bright and shiny): and when breakfast is over, an easy armchair and an equally easy conscience, the *Times* newspaper, as well as time at our own disposal, good health, good

digestion, plenty of friends, and a big balance at our banker's? But, perhaps, these two last terms are synonymous. After a breakfast of this description we need have but little to say about lunch.

But perhaps of all meals there is nothing to equal the cosy supper, where the appetite is assisted by the feeling that work has been done—whether of necessity or of duty—and done well. How many little dishes there are that seem to call friends together round the fire, even if it be such simple fare as the “pettitoes and toasted cheese” on which Mrs. Cluppings and Mrs. Bardell regaled themselves! A good Welsh rare-bit, washed down with a pint of stout, which is none the worse when served in “its native pewter,” often surpasses all the pleasures of a table adorned with fruit and flowers. Again, there are oyster suppers, though these, alas! are gradually dying out; also onion suppers—those of plain Spanish

onions. Then there are those little social suppers where the guest consists of one who is rendered more welcome by the mother of the household, owing to the fact that she thinks it quite time the eldest daughter got married. And last, not least, there is the poor man's supper—perhaps, after all, more enjoyed than any of those we have mentioned, although it may consist of two or three-pennyworth of fried fish, brought home in a piece of brown paper, warmed hastily in the oven, and washed down with porter at threepence halfpenny a quart. But then they all share alike—father, mother, and children—and on retiring to rest we may bear in mind the old saying that “the sleep of the labouring man is sweet;” while, on the other hand, too often will it be found, “uneasy is the head that wears a crown,” or bears great responsibilities of any other kind.

AN INFANT'S REQUIREMENTS.

A GREAT teacher once said that every little child came into the world like a little redeemer, bringing with it peace and good-will.

In happy well-ordered homes this is undoubtedly true. Baby comes to find a store of love waiting for him, and the most hard-hearted and stern become gentle and yielding as he approaches. The father goes about his daily work feeling proud and tender. He holds his head higher as he thinks of his child; is gladly willing to make any sacrifices if, by so doing, he may provide and secure what is necessary for those whom he loves. And let us at once acknowledge that the appearance of a baby is usually a signal for sacrifice amongst the grown-ups. There is no tyrant like a newly-born infant; no such disturber of existing orderly arrangements as he. Until baby, and especially the first baby, appears, the father is master; his wishes are considered before all; his needs are provided for, no matter who goes short. But in the happy home the first cry of the baby is an assertion of supremacy, and before the new-comer all the other members of the family step aside and take a second place. Baby conforms to nobody; all conform to him. He is strong, because he is entirely weak; powerful, because he is utterly helpless.

But if the father and master of the house feels deeply because a baby has been born, what shall be said of the mother's thoughts and feelings? For her, life must henceforth be entirely altered. It is a comparatively small thing that she has bought her new darling with pain and sorrow; that she has won

its life at the peril of her own. When once the baby is born, all this is forgotten; she “remembers no more her anguish for joy.” This little immortal has been put into her hands to train for good or evil. Here he is—so helpless, so feeble, so small. He is almost entirely dependent upon her—at any rate, while he is an infant. If neglected, he will soon die; if improperly treated, he will grow to be ailing and unhealthy; if properly treated, he may be strong and hearty. Not only his bodily welfare, but his character and his moral well-being depend to a great extent upon the mother and father, and the influences they may exert. If petted and indulged, baby will grow to be selfish, irritable, or cruel; if he meets with unkindness, he will probably become deceitful or hard; if he is not educated and trained, his being will be maimed and imperfect. But if he is guided and directed wisely, set in the right path, equipped with the best weapons, there is no saying how useful he may become; how good, true, and brave he may be; how much better the world may be because he has lived. How is the poor mother lying there in her weakness to be sufficient for all these things? With the best intentions in the world, how is she to avoid mistake—do that which ought to be done, and leave undone that which ought not to be done?

There was once a very highly educated, talented woman, who was so clever that it used to be said she had brains enough to supply ten men. In due time she married and became the mother of a little child. Then she wrote in her diary, “I am the mother of an immortal being; God be merciful to

me a sinner." The feeling thus expressed by poor Margaret Fuller must have been that of thousands of women. There is no experience which makes a woman realise so thoroughly her own weakness, incapability, and ignorance, as that of motherhood.

It has been said that the little helpless baby is *almost entirely* dependent on his mother; that his bodily welfare, his character, and his moral well-being are dependent *to a great extent* on his parents. The limitation here made ought to be noted, for it must be understood that the parents are not altogether the arbiters of a child's fate; they are not exclusively the controllers of his future and of his character. Other influences come in, with which they have nothing to do. For instance, there is the "Providence which shapes our ends, rough-hew them as we will." This is a mighty factor. Also there are the experiences of life, the diseases, disasters, strokes of good or ill fortune, riches or poverty, temperaments, and events, which go together to make up what we call Circumstance. Added to all these, there are the inherited tendencies of the child. These are so real and powerful that they have given rise to various proverbs. Thus wise men are accustomed to say to each other that "every child is a bundle of his ancestors," and that "our ancestors peep at us out of the windows of our babies' eyes." It is quite as well when parents know that influences exist which affect the child apart from themselves; for if fathers and mothers believed that their child's future and character rested altogether with themselves, the responsibility would be greater than they could bear.

But though parents cannot do everything to mould and form their children, there is no denying that they can do a great deal. To a very large extent children are what their parents make them. If they are judiciously fed and healthily clothed, and if they are brought up amongst healthy surroundings, the majority will grow to be strong and hearty, and life will be full of bounding joy to them; if their faculties are developed, and they are trained to be industrious and honest, they will grow up to be useful members of society, and will add strength to the community; if they are taught to be just and kind to others, orderly in their habits, and refined in their ideas, they will become a blessing to everyone who has to do with them, and most of all to their parents. But if they are neglected in body, they will become weakly and ailing, and they will either die or life will be full of suffering for them; if they are foolishly indulged or harshly treated, they will become deceitful, unruly, and rough; if they are not trained to self-reliance and independence, they will become incapable of helping either themselves or others. Bad and good qualities grow. What a

child is to be is very largely decided in the nursery. Badly brought-up children are not always to blame if they go wrong; they simply continue on the road upon which their parents started them. "The child is father to the man." "As the twig is bent, the tree is inclined." It is quite rare and difficult for the man or woman to escape from the effect of parentage and up-bringing. Nor will this effect stop with one generation. If all the fathers and mothers could be made wise and good, knew how to bring up their children, and were willing and energetic enough to do what they knew, society would be regenerated, and the millennium would be upon us before we knew that there was to be a change.

To bring up children wisely and well is not at all an easy business. The capacity to do it does not come by instinct to anyone. It has been said that "a crop of good children is one of the hardest crops to raise;" and undoubtedly this is true. Bad children, disobedient, unruly, disorderly children, raise themselves. They grow like weeds do when the gardener sleeps, or when he is idle and ignorant. Good healthy children need attention, love, trust, knowledge, and care. The world has been a long time trying to find out how "good crops" of this sort are to be produced, and even now there is much which affects the result that we do not know, and much about which even wise people disagree. Still we know a little, and all earnest loving parents should make it their business to acquaint themselves with the best that is known on the subject.

For thousands of years—that is, ever since the world was made—the duty of rearing and caring for children during the days of infancy and childhood has been entrusted by Nature and society to mothers. It can, however, scarcely be said that they have accomplished their task very successfully in times past, and as a proof of this it may be mentioned that a very large proportion of those who have been born into the world have not lived to grow up at all. It is quite appalling to think of the thousands and millions of human beings who have come into the world simply in order to leave it again. "A baby was born, a baby died;" this is the life-history of millions. The worst of it is, that if we were to state the case quite truly, we should very often have to say, not "A baby was born, a baby died," but "A baby was born, a baby was killed"—killed by the mismanagement, the ignorance, of the one person in the world who would have laid down her life to save the child.

Mothers do not willingly injure their children. If they knew the best thing to be done they would gladly do it. The misfortune is that few of them know. Girls marry and become mothers without having a notion of how to rear an infant. They

find themselves with a baby on their hands, and they are bewildered. They ask advice of women older than themselves. One friend advises one thing, another friend advises another. These friends agree in nothing but in contradicting one another. The poor mother is at her wit's end, the baby screams, the father is impatient, the house is upset. In despair the mother turns from improper food to still more improper medicine, and the tiny spark of life is soon quenched. Out of every hundred babies born into this world, from twenty to thirty die before they are five years old, and for the most part their deaths might have been prevented.

It is said that some of the bitterest tears that are shed by human beings are shed over the graves of little children. If we walk through cemeteries and graveyards, and notice the inscriptions on the tombs, we realise how hearts have well-nigh broken, and lives that might have been full of joy have been made sad, because little children have been "taken away." "Taken away!" Yes, we speak of the visit of the solemn death-angel as the "taking away" of our darlings. We should speak more truly if we said that through ignorance we too often had forced them away. The tears which parents shed would be bitterer even than they are, if this painful fact were acknowledged in its fullness.

"A little child in a house is a well-spring of delight, a messenger of peace and love." "Children are the heritage of the Lord." There are no words that we can use strong enough to express the happiness and joy which come with healthy, well-trained children. As Mary Howitt said, "God sends us children for another purpose than merely to keep up the race: to enlarge our hearts, to make us unselfish and full of kindly sympathies and affections, to give our souls higher aims, to call out all our faculties to extended enterprise and exertion, to bring round our firesides bright faces, happy smiles, and loving tender hearts." Children set our affections flowing; children in a house are worth more than the handsomest furniture or the most costly ornaments. They compensate us in toil; they give us hope in adversity; they are the treasures of our age. We never know how precious they are until we have had to give them up. Now, seeing that children do so much for parents, surely parents ought to do the best possible for them.

It is not every parent who values children thus highly. Sometimes we hear parents say, "Where there are children, there is no peace, no rest." They also grumble and say, "Children are tiresome." To this we should reply, children ought not to be tiresome; if they were properly brought up, they would not be so. If properly brought up, they would be much more of a comfort and delight than anything

else. Let us therefore try to gain a clear idea of what is included in the "proper management of children," and by reading acquaint ourselves with what clever men and women have learnt from studying this most important of all subjects.

The care of a mother for her child must begin before the child is born. All doctors agree that the mental and physical condition of a mother affects the child. Consequently a mother may do much to predispose her infant to be reasonable and manageable, by being herself reasonable and manageable. She should do nothing extravagant or out of the way during the time she is expecting her baby, but should try to keep calm and even-tempered; she should avoid excess in all things, live moderately, take regular but not excessive exercise, and fit herself for the joy that is coming to her by patiently doing her duty. She should try to guard herself against irritability, nervousness, and fancifulness. Many people have an idea that to indulge in fancies is the peculiarity of a woman who is about to become a mother. It is nothing of the kind. It is one of the occasions, of which there are several in life, for people to be calm and sensible, and to use their reason. Pregnancy is a perfectly natural condition. It is not a disease; it is the ordinary way appointed by Providence according to which the race is kept up. It depends very much upon ourselves whether it shall be for us a blessing or a calamity; and the first step which we can take towards converting it into a blessing is to receive it reasonably, make every preparation which we can for every contingency which is likely to arise, and then wait and trust. By acting thus we shall make things easier for ourselves, and we shall certainly be doing the best for the baby.

The next thing a mother can do to benefit her child before it is born is to endeavour to regulate wisely her thoughts and feelings, and to keep her mind occupied with good things. An expectant mother should not allow herself to cherish unkindly suspicions of others; if she does she will be helping to make her child peevish and irritable. Also she should aim at what is worthy, and look as much as possible at what is beautiful. Most of us have heard of the Roman matron who, when about to become a mother, surrounded her couch with marble statues of the Graces in order that every morning when she woke her eye might rest on what was beautiful, and who was rewarded by having a son more beautiful than them all. We do not, however, need to go to ancient history for illustrations of the kind. Here are two similar anecdotes which show the influence of the mother on her unborn child both for good and evil:—

"The outlines drawn by the artist Flaxman are

known to be most perfect and graceful. From earliest childhood he manifested a delight in drawing. His mother, a woman of refined and artistic taste, used to relate that for months previous to his birth she spent hours daily studying engravings and fixing in her memory the most beautiful proportions of the human figure as portrayed by masters. She was convinced that the genius of her son was the fruit of her own self-culture."

The second anecdote was narrated by Dr. Bull, a physician celebrated for his skill in maternal management. Dr. Bull says:—"It cannot be too strongly borne in mind that a calm and equable temper, a life of quiet cheerfulness and active duty, are most conducive not only to the health of the parent, but to that of the offspring also. As an instance very much to the point I may mention that I was recently consulted by a respectable woman about an unhealthy little child that she brought to me. Before this child was born the mother's mind had been greatly depressed from the 'worry,' as she expressed it, of her husband, a man of kind disposition naturally, but whose mind was so taken hold of by the idea that if he had so many children he should not be able to support them, that his wife had no peace day or night from this cause—a feeling, on the part of the husband, entirely morbid in its character, since his circumstances were not only above want, but very respectable. In consequence of this mental harass and disturbance the child born was puny and fretful. It is now (when eight months old) a wasted miserable-looking object, the picture of woe. Its mother says it never smiled until it was four months old, and rarely smiles now. The head is large, much larger than it ought to be, even making allowance for the wasted condition of the frame generally. Having carefully investigated the history of this case, I felt convinced that the whole mischief was clearly traceable to the mental disturbance to which the parent had been subjected. Her previous children were vigorous and healthy."

The mother here mentioned was made anxious by her husband. There are, however, many women expecting to be mothers who allow themselves to become depressed without any special cause. It would be well if such women could realise that with them cheerfulness is a *duty*. It not only affects the happiness of all concerned, but it affects the future character and disposition of the child. A baby is more likely to be manageable if the mother has been the conqueror of her own spirit.

There is still one more detail which ought to be mentioned. Very often expectant mothers, in order to ward off the various "shiverings," "sinkings," and "depressions" to which they think themselves liable, form a habit of taking beer, wine, or some

form of alcohol to keep up their spirits. It cannot be too strongly stated that except under medical orders, when unusual circumstances call for unusual treatment, a woman ought not to touch alcohol when she is going to have a child. To do this is to take the first step towards creating a liking for drink in that child. No mother who understood what she was doing would willingly run this risk.

The Infant's Dress.—Making clothes for the expected baby is delightful work for the woman who expects to be a mother. The sewer puts a little love in with every stitch, and as every garment is completed she lays it away with pride and joy. Yet even in making baby's clothes there is room for the exercise of common sense. It has been said that fashions in baby's clothes do not vary. But this is not altogether true. Not many years ago it was fashionable for infants to wear long petticoats and robes, and these hung heavily from the little neck and dragged down the little legs, so that from the very commencement of their lives the children had to bear the burden of their clothing. This was a great mistake. A baby's first clothes should be long enough only to wrap well round its feet, so that they may be covered and kept warm. If longer than this, they will be an infliction. Another absurd fashion (which still prevails in many families) was to have a large number of garments for the baby. Thus it is not unusual even now for babies to wear a band, a shirt made of calico or cambric, a flannel petticoat with a waist of double flannel, a second flannel petticoat rather longer than the first, a white petticoat, and a robe. Six garments are piled on the poor little frame. These garments have all to be put on and fastened or sewn up, and if the person who dresses the baby is not skilful, the child will be turned over and over while it is being dressed, in a most wearisome way. Surely this is an absurd custom.

Fortunately for the babies, we have of late learnt to realise that their comfort and health depend very greatly upon their wearing rational clothes, rather than many clothes or fine clothes. Since this fact was acknowledged, to make a baby's clothes has become a much more simple business than it used to be; that is, where comfort and health only are considered. Where display is the object aimed at, conditions are quite different. Enormous sums may then be laid out in buying costly garments with dainty and elaborate trimmings, and much time may be given to ornamentation. Yet the baby will not be any the better for its fine clothes—indeed, it will be the worse for them, if the clothes are heavy and cumbersome.

The first remark which has to be made about

making a baby's clothes is, that the mother who makes them herself should *not* use a sewing machine with a treadle for the purpose. This advice is given, not for the sake of the garments, but for the sake of the mother. Nothing can be more injurious than the use of such machines at this time; and, indeed, treadle machines are not to be advised for women at any time.

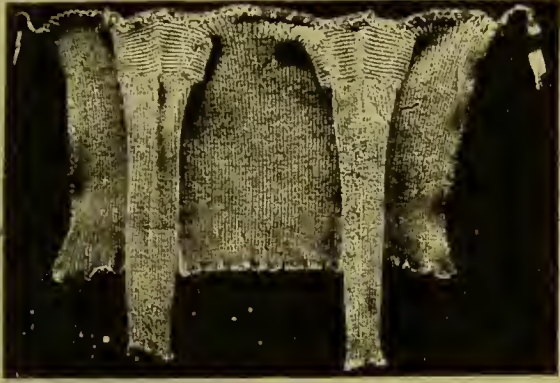


Fig. 1.—WOOLLEN SHIRT.

Before beginning to make baby's clothes it is well to understand what we want. We want clothing that shall be light, warm, and loose. The clothes must be light, because the body is not vigorous enough to bear a heavy weight. They must be warm, but not too warm; and they must cover the vital parts of the body, which are, the chest and the bowels. Consequently they must be of reasonable length; they must come well up to the neck to cover the chest and shoulders, also the feet. They should be loose, so that the various organs may perform their functions without hindrance, and that there may be room for growth and development. In addition to these requirements we may say that a baby's clothes should be made so that no pins will be needed when putting them on, and so that the baby will not need to be turned over and over when it is being dressed.

Rational Clothing.—The best material which can be used for every garment which a baby has to wear is wool or flannel. Years ago a great authority on babies uttered the following dictum: "If you would have strong children, remember there are three requisites: plenty of milk, plenty of sleep, and plenty of flannel." It is when we use flannel, and flannel only, that we can lessen the number of garments that are worn. Three garments made of flannel (or of wool, which is the same thing) are equal to five or six made partly of flannel and partly of cambric or of calico. These three garments will supply abundant warmth; they can be very easily put off and on; they can be soon washed. From every point of view they are to be recommended.

The first of these three garments is a woollen shirt (Fig. 1). For a long time a baby's first shirt has been looked upon as a thing of beauty. Rich people have made it of the finest cambric; have trimmed it with frills, and edged it with lace or embroidery, and then they have rejoiced in its daintiness. Even the poorest mothers have tried to supply a little edging for the important vestment. Sometimes, after gorgeous little shirts have been in use, they have been sent to the laundress, who has exercised all her skill in getting them up superlatively, and to this end has *starched* the trimming before ironing it. The consequence has been that the tender skin of the little wearer has been chafed and made sore, and this has led to screams and lamentations. Thus it has happened that the daintiness of the shirt has made it hurtful.

Much more satisfactory than the most elaborately trimmed cambric shirt is a little knitted or woven shirt of white wool. This garment is so excellent that the mother would do well to adopt it, even if she could not bring herself to adopt any other woollen garment. By itself it supplies a considerable amount of warmth. It is very soft, being made of the softest wool. It is high-necked; large enough to come well over the bowels and over the chest; it has sleeves which come to the wrist; and its elasticity renders all pressure impossible. It can be very easily washed, and it needs no getting up, but only to be pulled out as it dries. In itself it forms the basis of rational baby's clothing. Mothers who find a difficulty in obtaining such a shirt at ordinary shops should write



Fig. 2.—WOOLLEN BARRACOOT.



Fig. 3.—FLANNEL FROCK.

for it to the *Depôt for Healthful Dress*, 23, Mortimer Street, London; at which *depôt* all the garments here recommended can be obtained. Six shirts should be provided—three for the day and three for the night.

The next garment which it would be well to provide is a flannel petticoat or "*barraeoat*," with the body and skirt in one (Fig. 2). This should be made of one width of white flannel, or of stockingette, a yard and a quarter wide and about a yard in length. It should be herring-boned all round (not bound), because a herring-boned hem is less likely to hurt the baby's tender skin; besides which, binding if soft wears through, if strong becomes hard. On account of the curves, however, the top part of the *barraeoat* may be bound with white silk. It should be hollowed slightly round the front and round the back, so that it will not pucker up into the baby's neck. A still deeper hollow must be made under the arms, and these should be fitted with shoulder-straps, which are sewn at the back only, and are buttoned at the front. In the illustration they are shown already buttoned. Sometimes mothers sew the shoulder-straps on both back and front, and then they have to wrench the baby's arm to get it into the arm-hole. When the strap is fastened, the inside of the arm-hole should measure not less than nine inches round. The straps should be four inches and a half long, and they should be between three and four inches apart from each other.

The fulness of the bodice part of the *barraeoat*

should be set in three flat pleats, not gathered. The back pleat would have to be about four inches wide, the front pleats about an inch and a half wide. At least four flannel petticoats of this sort will be necessary.

The little flannel frock, which completes the attire, can be made long enough to cover the petticoat (Fig. 3). It may be made very prettily and trimmed with lace. It should be high-necked and long-sleeved, and is never better than when made with a yoke-bodice. It would have to be gathered in at the waist by a sash of washing silk.

The complete costume here recommended is very simple, and easily made; yet it will be quite as warm and light as double the number of cotton or cambric articles could be. One advantage connected with it is that the garments, being so few in number, are very easily put on and taken off; consequently the business of dressing the baby is lightened. Another advantage is that the garments need no starching, ironing, or getting up. All that is necessary is to wash them well, then stretch them, whilst drying, to prevent shrinkages; and this is easily done.

During the first week or two of infantile life, when the baby is supposed to divide its time between eating and sleeping, a night-gown may be worn instead of



Fig. 4.—FLANNEL NIGHT-GOWN.

a flannel frock (Fig. 4). Night-gowns, like day-gowns, should be of flannel. When the baby wore the flannel shirt during the night, it might, if the mother preferred it, wear a calico night-gown; but when old enough to dispense with the shirt, a flannel night-gown should by all means be employed. If only mothers would form the habit of providing flannel night-gowns for babies and children, and would adopt flannel garments generally, they would avoid many a cold. Flannel absorbs perspiration and so prevents chills; it also stimulates the action of the skin, and so promotes health. When a child is disposed to bowel complaints, flannel is indispensable.

There are mothers who, though they would not object to under-garments being made of flannel, would much dislike to have the little frocks of this material. When this is the case, the outer garment might be made of muslin, llama, cotton, or merino. But an additional flannel under-garment would then be required. When it is said that three garments only will be sufficient, it must be understood that three *flannel* garments are meant.

When making the night-gowns, the mother should be specially careful that the garments are loose in every part, and that there are no tight strings, bands, collars, or wristlets to cramp the babe in any way, and so put pressure on the bloodvessels and hinder circulation. Tight clothing worn during sleep might injure a child for life; and during repose a baby should be more than usually free and unrestrained. Four night-gowns at least will be required. It must be noted, however, that in calculating the number of garments needed, the smallest number considered desirable has been given. A baby's wardrobe should always be sufficiently large to admit of wet and soiled garments being immediately changed for those which are fresh and dry. If a baby's clothing is not changed as often as it ought to be, and if perfect cleanliness is not maintained, skin diseases may result. Consequently, if the cost of clothing is a consideration, a mother when buying her baby's garments would do well to regard quantity as of more importance than quality. A sufficient quantity she must have, to admit of the clothes being changed constantly, washed, and thoroughly aired after use. It may be taken as a rule that, under the most favourable circumstances, shirts, flannel petticoats, and night-gowns should be changed twice a week.

There are other articles of clothing needed for an infant besides those already mentioned. These are bands or rollers, napkins and pilehes, boots and bootkins, a flannel blanket to wrap round the child when he is carried from room to room, another for the mother to receive the child when taken from his bath, a cloak and hood for outdoor wear, with a

jacket to wear under the cloak, and a pair of woollen drawers to go over both napkin and pilch. *Caps* are not included. Modern authorities are of opinion that babies are better without caps. They only heat the head, which ought to be kept cool, cause undue perspiration, and make a baby liable to catch cold.

Bands or rollers should be made of strips of very fine flannel torn selvage way, a yard and a quarter long and five inches deep. They should not be bound or hemmed at all, but the edges should be left raw. Four rollers will be sufficient. Some nurses use cotton bands instead of flannel; others use cotton as well as flannel. Neither plan is to be recommended. Flannel is the best material which can be used, because it keeps the child's bowels warm. The roller should not on any account be bound tightly round the body, only just firmly enough to keep the navel-string from slipping. Its use is to keep the part from being rubbed or made sore; and after the navel-string has come off, and the part is healed, it may be dispensed with if the baby is strong. If the baby is weakly, or disposed to cry or strain a great deal, the roller should be retained for two or three months; but even then it should never be bound tightly round the body, or it may do much harm. Dr. Chavasse, in his most excellent little book called "Advice to a Mother on the Management of her Children," says that the best way of leaving a roller off is to tear a strip off every day for a few mornings, and then leave it off altogether.

Modern authorities say that a baby's napkins, as well as his other garments, should be of flannel. The expense is an objection to this, for flannel is expensive. Very excellent and yet warm napkins are, however, now made of Turkish towelling, and these could scarcely be improved. Some mothers much prefer very soft material, and therefore they convert old table-cloths and old sheets into diapers. The chief point to be remembered, however, by those who have to provide these articles is that they should be made single—that is, they should never be doubled before being sewn. If made single they can easily be folded over before being put on, and they can very soon be washed and dried. When thus made, napkins should be a yard and a quarter long and twenty-two inches wide, so as to form almost a square when double. A detail of great importance, and one that may be mentioned here, because it affects the well-being of the baby, is that soda, bleaching powders, and washing powders of any description, must *never* be used in washing a baby's napkins. Materials of the sort are likely to chafe the delicate skin of a baby, and therefore they are to be avoided with scrupulous care. Three dozen napkins will be a very moderate allowance.

The pilch (Fig. 5) is usually made of a square of

flannel doubled crosswise and set into a band. It is used over the napkin for safety's sake. It is provided with tapes and loops, so that it can be fastened without pins. Four good pilches will be needed.

The little *woollen drawers* for slipping over the napkin out of doors are easily and quickly knitted at home (Fig. 6). To make them, get some Peacock Fingering and four long and fairly thick wooden needles. Use two needles only at first, and cast on 99 stitches. Knit 3 plain, 3 purl, to make ribs for the depth of an inch; then knit plain backwards and forwards for the depth of six inches. Divide the stitches and put them on two needles, and knit each division separately, as follows:—Knit 2 plain rows; narrow twice at the beginning and end of each needle; knit 3 rows; narrow twice as before, and do this a third time; rib 3 purl, 3 plain, for an inch and a half, and cast off. Sew the edges of the strip together in the middle, sew the legs also, put a running-string through the top, and the garment is complete.

The extremities of infants should be carefully clothed, and many children suffer in health through their feet not being kept properly warm. It is well, therefore, to provide knitted boots, to be worn both day and night, from the earliest infancy. The same



Fig. 5.—FLANNEL PILCH.

boots should on no account be worn both day and night, but separate pairs should be provided for night use.

The following instructions are for a baby's knitted boot:—

Baby's Knitted Boot.—Procure 3 pins (No. 16), $\frac{1}{2}$ oz. of pink or blue wool, and $\frac{1}{2}$ oz. of white ditto. Andalusian wool is to be chosen. If preferred,



Fig. 6.—KNITTED DRAWERS.

one colour only of wool may be used. Cast on 50 stitches of the coloured wool. This is for a baby's first boot; the number of stitches must be increased if a larger boot is required.

1. Knit plain.
2. Knit the 3 first stitches; * purl 2, knit 2; repeat from * till the last 3 stitches, which must be knitted. Repeat this row twice.
5. Plain.
6. Purl.
7. Slip 1, then take 2 together through the row until the last stitch, which must be knitted.
8. Slip 1; * put wool forward to increase, knit 1; and repeat from *. Do not increase before the last stitch. There now ought to be 50 stitches on the needle.
9. Knit plain.
10. Purl.
11. Same as 7.
12. Same as 8.
13. Same as 9.
14. Same as 10.

Now join white wool.

Do 1 row plain knitting; then 9 rows of ribbed knitting, 3 plain and 3 purl alternately, putting 3 plain stitches at the beginning and end of every row.

10. Plain.
11. Purl.
12. Same as 7.
13. Same as 8.
14. Same as 9.
15. Same as 10.
- Repeat these 4 rows 3 times, so as to have 4 rows of ornamental holes; join pink wool.
16. Slip 1, take 2 together; knit 10, take 2 together; knit 10, take 2 together; knit 20, take 2 together; knit 10, take 2 together; knit 1.
17. Plain.
18. Slip 1, take 2 together; continue to knit plain until the 3rd and 2nd from the end. Knit these 2 together; knit 1.
19. Plain.
20. Knit 14. Join white wool; knit 16; turn round and work on these 16 stitches in white, leaving the pink stitches on the needle without working them.
1. Purl.
2. Same as 7.
3. Same as 8.
4. Same as 9.

5. Same as 10.

Repeat these 4 rows 4 times to make 5 rows of ornamental holes. Cast off white.

Go on with the pink on the right-hand side. Pick up 11 stitches from the side of the white flap, and add on 11 new stitches from the end of the flap. This begins to form the sole at the right side of the sock. Knit 14 rows plain. There should now be 36 stitches on the needle.

15. * Slip 1, take 2 together. This ought to be at the toe. Knit the rest plain.

16. Plain.

17. Slip 1, take 2 together. Knit the rest plain.

18. Plain.

19. Slip 1, take 2 together; take 2 together again. Knit plain till within 3 of the end. Knit 2 together; knit 1.

20. Plain.

21. Slip 1, take 2 together; take 2 together again; plain to within 5 of the heel. Knit the 5th and 4th together, the 3rd and 2nd together; knit 1.

22. Plain.

23. Same as 19.

24. Same as 20.

25. Same as 17.

26. Same as 18.

27. Same as 15.

28. Same as 16.

Cast off.

Pick up the 11 stitches of the pink which were last made and proceed to make the toe, which, when made, must be sewn to the end of the white flap. To make the toe:—Knit plain; then increase at the toe end at the beginning of every row until there are 18 stitches. Knit 3 rows plain. Decrease every other time at the toe till there are only 11 stitches. Pick up 11 white stitches at the side of the flap, still knitting with the pink wool, and take up the 14 stitches which were left on the needle. Knit 14 rows in pink. Go back to * in row 15 and end at row 28. This forms the sole at the left side of the boot. Sew up the boot in the way which will be quite apparent from its shape.

The following is an easy way of making the first loose warm stockings for a baby to wear in the night:—

Baby's Night-Stockings.—Get soft double wool or knitting silk of any shade, and four steel pins (about No. 16). Cast on very loosely 60 stitches—that is, 20 on each of three needles. Knit round and round perfectly plain until there is a length of six or seven inches; do not either lose or gain during the time. For one round only knit 3 plain, drop 1 off the needle, and repeat. Knit round and round again for about an inch and a half, then narrow for the toe, as in making any other stocking. This stocking has not been shaped, and no heel has been made; but it will shape itself when in wear, and it will be very warm and comfortable. Where the stitches were dropped, put the finger under and roll them to the top; this will make an open work which will be very pretty. Three pairs of day-boots and three pairs of night-socks will be sufficient.

Flannel blankets and flannel aprons do not call for description. Every mother will understand what

these are like. Cloaks and hoods, too, are produced in every variety of shape and of costliness. It may, however, be remarked that a very satisfactory cloak can be made out of a large piece of fine flannel, about two yards square, which can be doubled over to form a shawl. This square may have a broad hem all round, feather-stitched with silk of the colour of the hood. Many mothers prefer a square like this to a made-up cloak, because it is easily put on, and can be wrapped round and round the baby. It can also be dyed and cleaned, and when it has lost its first freshness it will be valuable for nursery use.

It must never be forgotten that the time of year is a very important consideration when providing clothes for an expected infant. For both winter and summer, however, flannel is the most healthy wear, although in winter-time, if the weather be severe, it is likely that an additional flannel petticoat would be needed. In winter also it would be prudent to have four little woollen jackets—two for day wear, to put under the shawl or cloak when the baby goes out; the others, for night wear, are put on if required.

It is very usual when a baby is about to appear on the scene for the mother to fit up a baby's-basket, in which receptacle all the requisites for the new-comer can be placed in readiness. The plan is an excellent one, and a well-furnished baby's-basket is a great convenience. These baskets are sold ready trimmed, or they may be trimmed at home in any fanciful style; or, if utility only is considered, the basket may be left untrimmed. In any case, however, there should be put into the basket, in very good time, one of every sort of garment which the baby will have to wear, ready-aired and ready to put on; the flannel blanket and flannel apron: a soft sponge, a piece of soap, some safety-pins, a powder-puff, and brush, needles and thread, a piece of old linen, a small soft toilet-brush, and a good pair of scissors. All these things will be needed for the baby. A list of articles needed for the mother should be obtained from the doctor or nurse.

Last, but not least, it is necessary to have a cot or berceauette ready for an expected baby. This should be supplied with a horse-hair mattress, a comfortable pillow, and soft blankets. Under the lower blanket—the one on which the baby is to lie—there should be either a square of waterproof sheeting or one or two folds of blanket sheeting. The latter material is to be preferred, because, while it answers the purpose of the waterproof, it can be readily washed and dried.

Such are the preparations most necessary to be made when a baby is expected. How the little stranger shall be treated on his arrival must be a subject of further consideration.

GARDENING FOR JANUARY.

At the commencement of the year it is an excellent plan to consider well respecting any contemplated alterations or arrangements for the coming summer months. Change of methods and of varieties of plants grown will be productive of fresh sources of pleasure. In small gardens, especially, is some change more necessary than in larger ones. This cannot be made so easily as regards shrubs or other permanent plants, but may be more readily brought about with flowering plants, whether of a hardy character or of a more tender constitution. If any one kind of plant has been made a predominating feature one season, some change should be entertained another season, to give renewed interest. Some alteration might be perhaps also desired in the flower-beds and borders, and this work when desirable should be performed early in the year, to allow the turf to become well established again before drier weather sets in. At times an alteration in the paths may be necessary from the encroachments of shrubs and trees that it is not always desirable to keep constantly in bounds with the pruning-knife; this, too, should be seen to early in the year, before other work becomes pressing. The general arrangements and ideas of the year should at the commencement be thoroughly well considered, and their carrying out provided for well in advance of the season.

Garden Paths.—At this time of the year these should have every attention paid to them, in order to get them into as good condition as possible for walking upon, and at the same time clean and tidy. If made of gravel they require careful sweeping. This work may seem at the first glance hardly to need any practice or skill in its performance, but such is not the case. When footpaths need sweeping, the broom should be used lightly, only just sufficient pressure being applied to remove the leaves or other litter upon them. In this manner the gravel does not become loosened, and consequently wasted to some extent by being swept up with the rubbish. This waste of gravel is a considerable item if not looked after and kept in check as much as possible. After being swept, the garden-roller should be passed over the paths to leave the surface clean and smooth; this operation can be done at other times also—after a shower of rain, for instance, when more impression will be made. Any weeds that may make an appearance should be pulled up when the sweeping is being done, and not left to accumulate until time has to be specially given to their removal. Some repairs to the gravel will at times be necessary; this should be seen to by breaking up the surface and adding a little fresh gravel where needed, beating the same

down with the back of a spade, and then passing the roller over the spot several times. An accumulation of mossy growth will sometimes occur on paths, especially in shaded spots, or where more damp than usual. This can be removed more readily during a severe frost than at any other time, and without disturbing the gravel, by using a stiff or stubby broom for the operation in a free manner. When the paths are covered with snow, a sufficient clearance should be made for walking in comfort, but in doing this care must be taken not to scatter the gravel upon the surrounding soil or grass verges. After the snow disappears, a good rolling should be given.

The Lawn.—This will require occasional sweeping and rolling—not so much, however, in winter as the paths. This must not be done whenever there is any frost on the grass, or the inevitable result will be a disfigurement for weeks to come. Every footstep taken upon grass when frozen stiff will leave its mark afterwards in the plainest manner; avoid therefore treading upon it at such times, and do the needful work after the frost has disappeared. In a favourable interval between frosts, any actual inequalities in the surface should be seen to and remedied. The removal of the turf will be necessary in order to do this work. The soil selected to fill up sunken spots should be of a *poor* character, in order to prevent an over-luxuriance in growth of the grass afterwards, which will assuredly take place if not guarded against. When the turf is replaced, a good beating either with a proper turf-beater, or the back of a spade, should be given, and repeated later on.

Flower Beds and Borders.—After a frost has subsided, an examination of the contents of these will be necessary. It often happens that a slight upheaval of the plants will have taken place if planted during the previous autumn, not sufficient time having elapsed for them to gain a firm hold on the soil. The latter should be stirred with a hoe, and then by the aid of a small rake used in an upright manner it can be gently pressed down again around the plants. Choice plants might need a little more soil to be drawn up against their roots, to protect them against the next frost that comes. No fresh planting should be attempted at this season of the year, unless it be absolutely necessary, and then slight protection should be given if the weather be more than usually severe afterwards.

Propagation of Shrubs by Layers.—A portion of this work could be done at this season of the year with advantage, from the point of

utility, as well as from that of appearance. After a general clean-up, when the autumnal season has passed, there is not any risk of disturbing plants that have been layered, by the performance of that work. Gaps may also occur in the shrubbery, which can be remedied by pegging down the side shoots of a neighbouring shrub, which in time will develop roots of their own, and be capable of an independent existence, eventually to be moved and replanted in another spot. Aucubas and the common laurei are easily treated in this manner, making in the course of a season or two capital plants. In this way a good stock of the former can be raised, which will be found useful to plant in shaded positions, where many plants will not grow satisfactorily. In pegging down aucubas we prefer to select shoots upon which are three or four compact growths; if a single growth be pegged down, the point should be pinched out later on to make it dwarf and close in habit as a young plant. Pegs for layering should be made when the weather is unfavourable for out-of-door work, and held in readiness for use.

Ivy for Edging Walks.—The smaller-leaved kinds of ivy make capital edgings for narrow verges next to shrubs; cuttings of these could be planted closely together in a shaded spot, and will be found to make good plants for the purpose another season. Short growths which show a disposition to push forth roots are the best to choose; insert these about six inches in the soil, and water well afterwards, and on future occasions as found needful.

Hardy Climbing Plants.—These, where permanently established and in luxuriant growth, will need during this period of rest to be carefully gone over and thinned out or pruned, as may in each case be necessary. All dead or weakly growths should be taken out, and sufficient of the healthy clean shoots be retained to cover the space allotted to each kind. Before the tying or nailing is done, all the old ties, &c., should be examined, and removed wherever any injury is likely to occur. Fresh ones can be substituted as required, and afterwards the younger growths must be secured, leaving all in an orderly manner.

Respecting climbers, it is needful to add that frequently many kinds are seen in but poor condition from one cause or another; more, perhaps, from a lack of knowledge as to their requirements than from any other cause; sometimes they are woefully neglected by permitting them to go on from season to season without proper attention; thus, in time, becoming naked and bare at the base, with all their energies concentrated in thick clusters of growth higher up. This can be prevented, and the space

on which they are trained can be clothed with foliage from the base upwards. Young shoots springing up from near the ground should not be allowed to grow in an upward direction, but regulated and spread out in a fan-like form; other growths will then be more likely to spring forth from these shoots. Climbers that are apparently exhausted should (after having been pruned and trained) have the surface soil removed down to their roots in a careful manner, so as not to injure them, and fresh soil with an addition of manure be put in its place. Sometimes climbers become unduly dry at the root; when the foregoing work is being done, it will be well, therefore, to give a good watering where necessary.

The next few weeks (when the weather permits) will be a good time to plant fresh climbers. The following are good and useful kinds to grow, viz.—*Azara microphylla*, beautiful foliage; *Berberis Darwinii* (deep golden flowers); *Ampelopsis hederacea* (the well-known Virginian creeper); *Ampelopsis Veitchii*, a lovely variety with miniature foliage, well adapted to small gardens; *Ampelopsis sempervirens*, an evergreen kind; honeysuckles in variety, including the beautiful golden-veined form (*Lonicera aurea reticulata*) and *Lonicera sempervirens* (the scarlet trumpet honeysuckle). *Ceanothus azureus* and other kinds, all very showy and distinct, require a south aspect; *Clematis Jackmannii*, violet-purple; *Clematis alba magna*, white; *Clematis Fairy Queen*, pale pink; and other fine kinds. *Cotoneaster microphylla*, fine foliage and red berries; *Crataegus pyracantha*, a most useful plant of hardy constitution, with large clusters of berries of brilliant colour during the late autumn and winter months. *Euonymus latifolius*, with green foliage, and *Euonymus radicans variegata*, with silvery foliage, are most useful for low walls, or any position where needed to be kept in close compass. *Garrya elliptica* is very striking in the early spring, when its catkin-like spikes of efflorescence are fully developed.

Ivies in numerous variety are suitable for damp and shaded spots where anything else will scarcely thrive; they should not be planted where better plants will grow well. The best kinds to plant are the Irish ivy, *Hedera canariensis*; *Hedera dentata*, a very fine ivy with noble foliage of a glossy green colour; *Hedera digitata*, a small-leaved kind, compact in growth. *Hedera Silver Queen* and *Hedera tricolor* are good variegated kinds to choose, but are of slower growth. Jasminums are a fine race of hardy climbers. The following are two of the best to plant—*Jasminum officinale*, white, flowers in summer; and *Jasminum nudiflorum*, yellow, opens its flowers in long racemes during the winter months on a sunny wall. Magnolias are not planted nearly so much as

they deserve to be. *Magnolia grandiflora*, with its noble and distinct growth and highly perfumed white flowers, is the best of the evergreen kinds; *Magnolia conspicua*, white, and *Magnolia soulangeana*, with purplish flowers, are two of the best deciduous sorts, both of which flower very freely, making a fine display in April and May. Of the passion-flowers, *Passiflora cærulea* is the best; its blue flowers are produced freely on a warm wall, followed later on by golden-coloured fruit where thriving vigorously. *Pyrus japonica*, with its showy red blossoms in early spring, is an easy plant to manage. *Wistaria sinensis* requires plenty of room; then it is one of the finest climbers that can be grown. To flower well, it should be pruned moderately, thinning out the weakest wood only.

The above are among the best climbers that can be selected other than the climbing roses, of which the following are six of the best, viz.—Gloire de Dijon, William Allan Richardson, Celine Forestier, Reine Marie Henriette, from among the tea-scented or noisette class; and Madame d'Arblay and The Garland, both flowering in large clusters—these latter belong to the hybrid climbing section.

We have dwelt somewhat extensively on climbers, but from close observation are fully persuaded that many such might be planted to cover otherwise bare walls, which are at times most unsightly. Climbers have the distinct advantage of occupying little or no space on the ground, yet they give a good return, either in their foliage or in flowers. Taken as a class, they are of easy cultivation, and if well developed, are seen to perfection when used to festoon arches or pillars of verandahs, as well as on the walls. We advise them to be selected soon, and planted when the weather is favourable for that operation. Prune them somewhat more than usual during the first season or two, in order to produce a good number of shoots at the base of the plants, so as to furnish the space allotted to them in a more effectual manner.

Treatment of Shrubs during Winter.—A great amount of injury is frequently done to shrubs of all kinds when snow is falling heavily. Some kinds bear up much better under this extra weight than others. Laurels and plants of like character, by reason of their large and entire leaves, afford a considerable resting-place for the snow, and are thus consequently borne down towards the earth. Fir-trees and hollies generally withstand the weight much better. Standard roses, if possessing extra large heads, are liable to injury where not properly secured beforehand. Deciduous trees, being generally denuded of their foliage at this particular season of the year, do not run so much risk of injury.

As far as practicable, measures should be taken to lessen the possible harm to the plants; this can be done partially in advance. At the general clear-up after the fall of the leaf in autumn, note should be taken of shoots of more than usual length which it has not been deemed advisable to remove. These shoots should be secured with stout string or stakes, not, however, in an unsightly manner. Where long growths can be advantageously shortened in the early autumn (say, September), it is better to do so, to save as much future trouble as possible; then when the time of snow-storms is upon us, injury need not be so much apprehended. A watchful eye, however, needs to be kept at the time snow is falling, to note its peculiarities. At times it will glide off the foliage in a great measure, and cause no harm; at others it will cling tenaciously: whilst sometimes, if accompanied with wind, branches will become unduly burdened. To guard against injury at this juncture, it is well to go around the garden with a long pole or stout stick, and gently relieve all necessary cases by a shake of the branch. Any branches or boughs that have been displaced can, after the snow has disappeared, be reinstated to their proper position and secured there with string.

During frosty weather without snow, shrubs and trees should be disturbed as little as possible; by this we mean no pruning or cutting of evergreens should be done more than is absolutely necessary; neither should digging between them be proceeded with at such a time. Protection against injury may be needful in some few instances, but in the majority of cases it does more harm than good by weakening the plants, and thus rendering them more susceptible of injury later in the spring. Unless the plant be of more than usually tender growth we do not advise any protection to be employed that will render the appearance unsightly. It is better to secure partial protection for such subjects by planting them where others of more hardy character can afford them a shelter.

Work in the Kitchen Garden.—The routine work in the kitchen garden during the month of January is somewhat limited, more so during the prevalence of frost than if the weather be open and suitable for spade-work. During frosty times advantage should be taken to wheel any manure at disposal on to vacant ground, to be in readiness for digging-in when there is a milder time. This work is performed much more conveniently when the ground is hard; it is easier for the operator, is done with little or no injury to the soil or paths, and affords work when otherwise scarce. Every garden of moderate extent should have a corner where rubbish, such as leaves, lawn-grass mowings, &c., can

be stored for future use as manure when decomposed. In order to facilitate decomposition and prevent obnoxious smells, some lime should be kept in store to be sprinkled over the heap at times. This need occupy but a little space of ground, and could with ease be screened by shrubs from other parts of the garden.

Whilst on this point of manure, we think it well to state that mowings from the lawn constitute a most excellent manurial agent; yet, more often than not, these mowings are thrown away as being utterly worthless; such, however, is far from being the case, as we have proved from practical experience, extending over years. Short grass, as taken from the lawn, when decomposed, is almost, if not quite, equal to cow-manure; where we have applied both for comparison no difference has been observed in favour of one or the other. We feel this is not nearly so much known as it should be, therefore have mentioned it in order that those who have not thus far economised it for use in this manner may be able to do so in the future.

All vacant ground in the kitchen garden should be deeply dug when the weather permits of the work being done; in doing this take care to keep the manure applied to the ground well buried beneath the surface, in order that its stimulating properties may be absorbed by the soil. When the digging is done early in the year, the action of the frost afterwards will have a beneficial effect in pulverising the soil, thus preparing it the better to receive the future crops. In some soils wire-worms are present in considerable numbers; where such is the case, a good dressing of quicklime and soot, in about equal proportions, should be applied over the surface of the ground, in addition to the other manure (for these act as an excellent manure as well), and all dug in together. Chalk-lime is the kind to obtain, being much to be preferred to grey lime as used by builders for the making of mortar.

Even if the weather be mild and congenial during January, it is not advisable to sow any seeds in the kitchen garden; those sown a few weeks later on will in the end be quite as forward, and give less anxiety and trouble, as well as constitute much better plants. All decaying matter should be cleared off between crops of vegetables still standing on other parts of the ground. Parsley is much better for this extra attention, so are Brussels sprouts; a frequent use of the hoe and rake between these and any crop will be beneficial.

Fruit Trees.—The pruning of the greater portion of these, with few exceptions, should have been completed some weeks back; but where not yet done, the earliest possible attention should be given to this

work. That of apples, pears, currants, raspberries, and gooseberries should be the first to receive attention. Cherries may follow, leaving the morellos to the last; and last of all finish with peaches and nectarines. These two latter fruits are at times more uncertain in their disposition of flower-buds. We therefore prefer to leave them till the buds are swelling—a guide is then in some manner given as to the needful treatment. If an abundant bloom is promising, pruning can be done rather more liberally than if only a moderate amount is showing. These fruit trees are, as a rule, left far too thick; only sufficient wood should be preserved to cover the wall-space at about three inches between each shoot. Morello cherries require, in regard to pruning, a somewhat similar treatment; other cherries need to be spur-pruned. The pruning of apples, pears, and bush fruits, we shall treat in the autumnal season, merely alluding to the subject here in the event of its not having yet been completed.

During frosty weather, and when the ground is covered with snow, some kinds of birds are very destructive to the fruit-buds, from which the next year's crop of fruit is anticipated. It is a good plan to fire off a gun occasionally to scare them away. Another plan, which we have found to answer very well, is to procure some scarlet flannel and cut it into narrow slips, then tie it at intervals on to a long string. When sufficient has been done, it should be lightly entwined around gooseberries and currants, or, in fact, on any fruit tree accessible. We are inclined to think it would pay to attract the birds to another part of the garden with a little food in frosty weather, considering the ravages they will soon make if allowed to have their way without any disturbance.

Work in the Conservatory, Greenhouse, &c.—Where there is a greenhouse, the main work of the month will lie under the glass.

Cleanliness.—In order to start well at the commencement of the season, a thorough cleansing of all glass structures is absolutely necessary. It is a gain in more ways than one:—First, it tends to a better preservation of the paint and woodwork, for any close observation will reveal the fact of an accumulation of deleterious vegetable growth over the glass and wood. In the case of the glass, it chokes up the spaces between the laps, thus preventing the ingress and egress of air so necessary to plant life, which, if admitted in this manner during very cold and frosty weather, serves the purpose instead of opening the ventilators, except during bright sunshine, and consequently higher temperatures. With the paint and putty it causes more premature decay, by reason of retention of moisture, which, in the case of paint, means eventually penetration of the woodwork also,

thus endangering by prolonged neglect the whole fabric itself. When once the woodwork becomes saturated by the absorption of moisture, it is a most difficult matter to set things right again; in fact, the tendency is otherwise, through the setting up of a fungoid growth which penetrates the tissues of the wood to a considerable extent. The putty will sooner lose its properties also (from the same cause), and be non-resisting to the inroad of water from the exterior of the roof, otherwise termed "drip," which is often a source of injury to the plants, especially if perchance they stand directly under it, and more so where it can reach the heart of any tender growth. Secondly, it is in every way better for the plants themselves, for with cleanliness of the glass more light, so essential to plant life, is admitted, whilst insects are frequently cleared off in quantity by a thorough washing down, thus destroying their eggs and powers of reproduction to a considerable extent. Thirdly, the general appearance of the interior is better, and the occupants thus displayed to far greater advantage when re-arranged afterwards.

In performing the work of cleansing, it is needful to use care in the selection of materials. Soft brushes are best to apply to the glass; for the sashes an old or half-worn-out spoke-brush is a good thing to use—it will not injure the paint. For places on the roof not easily reached we find a brush as used for applying tar to fences to be a capital tool to use, with its long handle of some three feet or more. The syringe should be worked freely both before and after the brushes, and not too much work done with the brush before the syringe is applied. A small amount of soft soap and soda dissolved in a pail of warm water will greatly facilitate the removal of the scum and dirt, taking care that it does not reach the roots of any climbing plants to cause injury thereto.

When this is completed, any defects in the putty, if previously observed, should be remedied. There is not generally much putty on the underneath or inner side of the glass if the work has been well done, but any crevice if stopped will help to prevent drip. The improved systems of glazing now in operation, however, greatly tend to prevent this evil occurring so frequently. Painting where necessary to the interior is best done thus early in the year before growth commences, to avoid any possible injury to the permanent occupants of the house. One frequently sees this work done during the summer-time. It is, however, a mistake to think that because outside painting has to be seen to during the more favourable season of the year, the same rule applies to the interior. It cannot possibly be done to the same advantage when plant life is active without injury thereto, both from the fumes arising

from the paint itself, and from the removal of climbing plants to facilitate the work. Where the paint is kept clean from year to year, its renewal need not be so frequent—once in five or six years is often enough. We have, in fact, known it to last well even for ten years when the best materials have been used in its composition.

Ventilation and Temperature of Glass Houses.—This is a point on which some remarks are very necessary. Imperfect performance of this work is a fertile source of failure in many instances, probably unknown to or even suspected by those who suffer from it. During the winter and early spring-time it is needful to pay close attention to the weather, and be guided accordingly. If cold winds are prevalent from the east, or from that point to the north, the ventilators are best kept closed, except during bright sunshine, and even then opened cautiously. It is a better plan to keep the fire in check, with the heat in the pipes reduced, than to have to admit an extra amount of exterior air through the ventilators to keep the temperature within due limits. Ventilation at such times should be at the top of the house only. When the top ventilators are slightly opened, an extra current of air will be set in motion, and sufficient for other parts of the house will gain admittance without opening side ventilators. The only spot to admit air advantageously in cold weather is where the openings are on a level with and close to the hot-water pipes, so that the air becomes slightly warmed before it reaches the plants. Cold air when admitted by means of side-lights comes into immediate contact with the plants, and cannot but be the medium of injury to them. During mild weather in the winter-time, with little wind, side-ventilation is an advantage in every way; too much, however, should not be given in wet or foggy weather, so as to overcharge the house with atmospheric moisture. Caution in regard to this is more needful where soft-wooded plants have chiefly to be considered, such, for instance, as cinerarias, geraniums (various kinds), and Chinese primulas, to all of which damp is most injurious. At such times as these—and we frequently experience such at intervals in the winter season—it will be best to keep a little heat in the pipes. This will tend to dispel any superfluous moisture, and keep the air in a more sweet and growing condition.

The temperature should not be allowed to rise too high without attending to the ventilation: this may occur when the sun shines out brightly in the spring-time, and be trying to the plants. But a large amount of air should not be given at one time; this is frequently done, causing a rapid inrush of colder air, and is prejudicial. The better plan is to note

well the appearance of the weather, and admit air rather in anticipation of a rise in the thermometer than wait till that ensues, when there is every prospect of its doing so. After a bright day, with a free circulation of air playing amongst the plants, it is a good plan to close up the ventilators before the sun's rays have lost their power; then give the plants a gentle bedewing overhead with the syringe, damping the floors and stages also—not, however, in either case to excess. This will act as a refresher to the plants, and produce what is termed a growing atmosphere. In mild weather some air might be re-admitted later on, if the house is too warm, particularly so as the days lengthen and warmer nights supervene. In the winter-time air may, to a small extent, be left on all night when it is very mild; and later in the season it is a decided advantage, and preferable to a close stuffy atmosphere. High night temperatures are not to be recommended—such are not calculated to promote a healthy and robust growth; neither are the plants so treated nearly so well able to withstand the vicissitudes under which they are at times called to pass, even when under glass. It is altogether contrary to the laws of growth in plants to maintain these high night temperatures, which are in some cases nearly equal to that of the day-time. They have a tendency to produce a drier state of the atmosphere than is congenial to plant life, and they weaken the plants.

For the conservatory when treated as a cool house, and for the greenhouse too, a night temperature of 38° to 45° is ample during the winter months. During frosty weather a few degrees lower for an hour or two early in the morning will do no harm. We will suppose, for instance, that when the fire is made up for the night the thermometer registers 40°; in the morning it will probably be as low as 35°; but on reviving the fire this loss of heat will soon be made up. This is a better plan than firing hard to maintain a higher temperature, for reasons already given. If the house is kept as a temperate or warm greenhouse, 10° must be added to the foregoing figures, with the same variations allowed in colder weather. For the stove or hot-house another 10° should be added, only touching the higher temperature (65°) when the weather is mild. When there are signs of a more active growth as the spring comes on, a few degrees more may be added in each instance—not so much, however, in the greenhouse as in the stove, allowing a medium for the temperate house. When the greenhouse at night is above 50° no firing is needed, but air may be left on to keep the heat down. As the season progresses, the night temperatures of the greenhouse and temperate house will merge into each other; whilst the highest for the stove should be taken at 70° during the summer

months. When the colder nights of autumn set in, the night temperatures will be gradually lowered until the minimum is again reached. This must not, however, be done too rapidly; but a gentle maintenance of temperatures by fire-heat kept, so as to prevent a too rapid decline. The oversight of postponing fire-heat at night in the autumn months results in injury to the plants by the damp condition of all the surroundings; the plants appear, as it were, overburdened with moisture, not being able either to absorb the same or to throw it off. Any close observer will note this, and act accordingly, when it is in his power, by promoting a free circulation of air aided by fire-heat, and the removal of all decaying matter as it appears. Thus the plants will be gradually prepared for the more severe weather of the winter months. Where the higher temperatures are maintained by any extra amount of fire-heat, a corresponding degree of moisture must be kept up by the use of the syringe and the water-pot. When any high winds are prevalent, more moisture will need to be sustained by artificial means also, otherwise the air will become too dry for healthy plant life. There should be a rise of temperature in the day corresponding to the state of the weather. If in the winter-time, with frost or fog, 5° advance on the night temperatures will be sufficient; at other times an increase of 10° will not be too much; whilst 15° to 20° may with safety be added as the day temperatures during the summer months. The highest point should only be touched when the house is closed, as previously advised, during the afternoon. At times, when we are experiencing weather more than usually warm, a difficulty will probably be found in keeping the temperatures low enough. When such is the case, the early ventilation previously suggested will be more essential, and less trying to the plants themselves.

Preparation, &c., of Soils for Potting Plants.—Advantage should be taken of every opportunity to prepare soil for potting young plants, and for re-potting older ones, during the next few weeks. If soil is not on hand ready for use as required, it will be well to obtain sufficient to last throughout the season as soon as convenient. Good fibrous yellow loam is the best loam to choose for pot purposes; this should be the top spit of an old pasture field, cut from three to six inches in thickness, according to the depth of the soil, and in good condition. Loam of a darker colour is, as a rule, more easily obtained; this, if full of fibre, will answer the purpose. When either is delivered, it should be built up into a square stack, and not allowed by any means to lie about in a loose manner, causing waste and deterioration. Peat is needful

as an admixture with loam for many plants; this should also be full of fibre. If cut too thickly, the underneath side will often consist of an inferior quality that should be avoided; this is usually darker in colour, close in texture, and soft, with an almost total absence of fibre. Decomposed leaf soil is an excellent material to induce rapid growth, and is best used as an ingredient with loam and sand. Sufficient soil to suit each case should be got under cover some time before it is needed for use. It will in most cases need to be passed through the hand, and broken up into pieces of variable size, from about that of a hen's egg downwards; this is better than chopping it to pieces, or working it through a sieve. In addition to the above soils, some silver sand will be required to keep the soil open, and to facilitate fresh root-action. Charcoal is an excellent addition in many soils, especially for plants that will remain for a considerable time in the same pot. Broken pots will be useful for drainage, and cannot be put to a better purpose. They should, however, be washed clean before being thus used at the bottom of each pot; this can be readily done in a pail or small tub with water, with a stick or two to stir them about, afterwards drying. All empty flower-pots should be washed clean both inside and out, preparatory to future use. This is a most essential point to observe. No pots should be used whilst wet to re-pot another plant; if so done, the soil will adhere to the pot, and at the next shift will cause a sacrifice of roots. All of the aforementioned work can be seen to when the weather is unfavourable for general out-of-door occupations.

Flowering Plants for the Early Spring Months.

—The following selection of plants will be found of easy or comparatively easy culture, and well suited to each kind of house for this season of the year, that is, for the conservatory or cool greenhouse. The camellias play a most important part in these houses now; the following are twelve of the best varieties for general purposes:—*Alba plena*, white; *Candidissima*, creamy-white; *Chandlerii elegans*, light rose; Countess of Orkney, white with carmine stripe; *Donkelaarii*, crimson mottled with white; *Imbricata*, deep rose; Lady Hume's Blush, delicate flesh-colour; Monarch, bright scarlet; Prince Albert, carmine and blush with stripes; Reine des Fleurs, red; *Tricolor*, white, striped and spotted with carmine; and *Bealii*, bright crimson. The majority of these kinds are not so subject to that propensity of casting their buds as some of their fellows; where this occurs, as it does, just as their blossoms are expected to expand, disappointment must ensue. It is produced by one or more of the following causes:—Drought is a fertile source; so is a dry atmosphere, from fire-heat more particularly; excess of water, too, will cause it

to occur; so will the fogs known as London fogs. The camellia is greatly assisted, when its buds show signs of expanding, by keeping the foliage sprinkled on all fine days. If the plants are large, syringe them freely and let them have the moister end of the house; and as this will invariably be the coolest, it will suit them best in that respect as well. Where the frost is but just excluded will suit them well; in fact, they may be grown in the open air, but cannot be relied upon to perfect their flowers, by reason of the early spring frosts, unless it be in a very protected position. The soil we recommend for them is one consisting of good fibrous loam and peat of like quality (two-thirds of the former to one of the latter), with the addition of silver sand or road-scrappings sufficient to keep the soil free and open. If the plants are large, some crushed bones might be moderately used. Potting must be done firmly, and the best time for it is when the new season's growth is completed. They may, if in pots, be stood out of doors in the summer to make room for other plants inside; but choose a sheltered spot. Freshly imported plants will generally be found to have been potted in peat or decomposed leaf soil; this may suit them in a young state, but the sooner they are transferred to soil as recommended the better, to ensure prolonged vitality. Should the plants show signs of developing an extra quantity of flower-buds, it will be best to thin them out in order to get better blooms; thus not to distress the plants too much. At times the stronger growths will be found to have a cluster of flower-buds at their apex; these buds should be thinned out to two of the most promising, and any weakly growth should not be allowed to perfect more than one blossom. In order to make the younger plants as bushy and compact as possible, it is a good practice to remove the wood-buds also from the points of the shoots; this will cause others to break forth lower down the stems and in greater numbers, assisting also in the more equal distribution of the sap. In cutting the flowers, it does no harm to the plants to remove a portion of the growth, if the plants are of a good size, especially those shoots which are disposed to take the lead at the expense of the rest.

Abutilons *Boule de Nieve*, *Boule d'Or*, and *Royal Scarlet* are easily grown plants, flowering freely, and useful for cutting; these should be struck from cuttings every year, so as to ensure dwarf compact plants. They will flower well in small pots; better, in fact, than if grown too luxuriantly. After the flowering period has passed, or rather when they are not any longer required (for they will flower almost perpetually), they may be pruned and afterwards re-potted to make larger plants for the second year; at the end of the second season they may be thrown away, or, if needful, kept another season for the

flower-beds. Soil as advised for camellias suits them well.

Acacias are capital plants for the cool house in the spring. To keep them well within bounds a moderate use of the pruning-knife is needful. Soil, chiefly peat with a free admixture of sand: and exposure in the summer months when the growth is well advanced, so as to fully ripen the same for the next spring bloom. The following are among the best kinds to grow:—*A. armata*, *A. Drummondii*, *A. grandis*, and *A. longifolia*, each kind bearing yellow blossoms (of various shades).

Coronilla glauca and *Cytisus racemosus* are free-growing plants with yellow flowers. Soil, chiefly leam; otherwise treated as recommended for the acacias.

Cherozemas are beautiful Australian plants with pea-like blossoms, yellow and red being the predominating colours. They require to be grown in peat and sand, with treatment as given for acacias. *C. cordatum splendens*, *C. Laurenceana*, and *C. varium* are the best kinds.

Ericas (heaths) are a most interesting class of plants, and worthy of a place in any collection. The following are easily cultivated:—*E. hyemalis*, *E. Wilmoreana*, *E. gracilis vernalis*, *E. Bowiana*, *E. hybrida*, and *E. melanthera*.

Epacris somewhat resemble the foregoing, being very floriferous, lasting a long time in flower, and possessed of varied colours, from white to red. The following are among the best to grow:—*E. delicata*, *E. alba odorata*, *E. Devoniana*, *E. Fireball*, *E. Her Majesty*, *E. Kinghorni*, *E. Lady Alice Peel*, *E. Mrs. Pym*, *E. The Bride*, *E. Vesta*, *E. Vesuvius*, and *E. sanguinea*.

Azaleas (Indian) flower well early in the year; the best early kinds are:—*A. Deutsche perle* and *A. alba*, both whites; and *A. punctatissima* and *A. vittata elegans*, striped kinds. Azaleas with smaller flowers than those of the Indian section are most useful

early in the year. *A. amana* (crimson), *A. obtusa* (orange-scarlet), *A. Little Beauty* (rose-pink), and *A. obtusa alba* (white), are all most useful, and flower freely in a small state.

When the Ericas and Epacris aforementioned have ceased flowering, they should be pruned sufficiently to keep the plants compact and neat; the Azaleas only require the faded flowers and seed-vessels to be removed. All of them thrive best in peat and sand, with a gentle heat to induce young growth after flowering, gradually withholding the heat as growth progresses; and in the summer-time expose fully to the sun out of doors in the Southern counties. Other Azaleas and Ericas will be noted in future articles.

The following plants for the cool house should be raised from seed annually, viz.—*Primula sinensis* (the Chinese primrose) in variety, seed of which should be sown in April and May on a slight hot-bed, or, to save trouble in the earlier stages, young plants can be purchased at about twice the cost of choice seed, and grown on afterwards in a cold frame till the autumn, and then housed on a shelf, if possible, near the glass; when advancing into flower, they can be shown to better advantage in a lower position. Soil, light loam and leaf soil with sand; water moderately and shade lightly during hot weather. Keep them, in the winter, at the warmest and driest end of the house.

Cyclamen seed (*C. persicum* vars) should be sown in the autumn to flower from fifteen to eighteen months hence, and grown during the first winter in a slight heat, afterwards treated as for primulas, with the exception of giving them slight sprinklings in hot weather. Tree carnations need to be struck from cuttings twelve months in advance of their flowering. Soil—loam, leaf soil, and sand, with a free circulation of air when growing. Hyacinths, Tulips, and Narcissi are among the most attractive bulbous plants for the early spring; their cultivation will be given, with lists of the best kinds, at the proper season for potting them.

IMITATIONS OF STAINED AND ORNAMENTAL GLASS.

MANY people nowadays, and more especially these who live in or near large towns, are liable to have the outlook from their windows spoilt by the lowering blank wall of a house, or their privacy disturbed by the knowledge that all their doings are open to the observation of opposite neighbours. Possibly these very neighbours have a firm belief in the economy of washing at home, greatly to the annoyance of those whose windows look straight out upon the drying-ground. Dwellers in a country house

rarely have such inconveniences as these to endure. They occasionally find that they get too much light through some of their windows, perhaps these on a staircase or in a large hall, and to which it is not always easy to affix blinds or curtains. Possibly they have a conservatory or glass corridor, in which the light is too strong for the welfare of some of the plants. Now that houses are furnished with more regard to general appearances than of yore, much light is considered inartistic, and windows are deftly

shaded, so that the glare is softened and often tinged with a mellow tone that adds greatly to the pleasing effect of a room.

For all these cases, windows filled either partially or entirely with stained glass are far preferable to those that are plain and clear. Real stained glass, with all its valuable qualities, has two very serious drawbacks. One of these is its cost, and this is increased if it so happen that in the course of a year or two the place of abode has to be changed. It is then a question whether the glass shall be left for the benefit of new-comers, who will probably object to pay the full value for it, or whether it shall be removed at considerable expense and risk of damage to the new residence, where, as likely as not, there will be a difficulty in finding an appropriate place for it. The second disadvantage is, that if by any mischance a pane should be broken, the glass being some years old, it is very difficult, and often an impossibility, to match the colour again, and the new glass will give the window a patched appearance, which will quite spoil its effect.

Neither of these disadvantages can be brought forward against the many imitations of stained glass that have nowadays been brought to such perfection. They are by no means costly, as will be shown hereafter; so that if they are not successful, or a new tenant does not approve of coloured windows, the tinted material can be scraped off, and the glass, quite uninjured, left plain as before.

Many people have a righteous hatred of shams; but in certain cases, in which the imitation is good in its way and convenient, they should surely endeavour to overcome their prejudices. For their consolation it may be stated that, provided the design is well chosen and well applied, so that the general effect is satisfactory, few of the beholders will know or care whether it is actually stained glass or not. When once the windows of a commonplace room or a hall have been furnished with coloured glass, the inmates of the house will wonder how they could possibly have left them plain so long.

There are two ways of managing imitation stained glass. One of these consists in fastening transparent coloured pictures to the window, the other in washing the glass itself over with indelible fluids. Of these methods the first is that most commonly followed, probably because it involves the expenditure of little time and trouble. There are two processes, and as each of these possesses great advantages to recommend it to the worker, it is difficult to give the preference to either.

Glacier Work.—That known as the "Glacier window decoration" we will take first, as being the simpler of the two. The designs for this are sold all

ready to be fixed to the glass, and require no preparation whatever. Needless to say, the glass must first be made absolutely clean and free from grease. It is then damped all over with a wet sponge, and the Glacier design laid upon it. To render it perfectly durable, the secret is to exclude every particle of air, and to get the picture and the glass to adhere without any air bubbles between them. They are easily dispersed by rubbing the paper with a soft linen cloth after it is laid upon the glass. This cloth must not be of a fluffy nature, or the tiny hairs will stick to the glass. It must be folded up, so as to make a sort of pad, with an even surface, without any wrinkles to disturb the picture. The designs are sold in sheets, so that in purchasing them the centre panel, border, frieze, and lower portion for a window will all be separate.

Special care must be paid to the way in which the joins are managed, and an imitation of the leading is provided to cover the joins, and to increase the resemblance to the real thing. This consists merely of black paper cut into narrow slips, and requires to be glued firmly over the joins in the design after this has been stuck to the glass and has become perfectly dry. They are rather the weak point of the work unless they are well managed. If they are not very thoroughly stuck down, they are apt to become dislodged after the glass has been exposed to heat and moisture caused by condensation. This may be overcome by allowing the designs to become thoroughly dry, and then laying on as smoothly as possible a coat of clear varnish. This will render it not only more durable, but will add considerably to the richness of the colours. It is advisable to leave the designs for not less than two days before thus varnishing them.

Vitremanie or Diaphanie.—What is known now as Vitremanie, and formerly as Diaphanie, is a somewhat more complicated process than that just described, and requires rather more care in its application. The pictures are to be had ready coloured, but, unlike the Glacier decoration, they require a certain amount of preparation, and have to be coated first with glucine. This is a sort of very strong paste, and may be had in bottles ready for use. It requires to be spread over the front of the design with a soft flat brush. A hog's hair varnish brush answers as well as anything, and it is impossible to be too careful that not a drop of the glucine runs over the edge, or touches the white side of the designs. They must be very thoroughly coated too, or, when they are stuck upon the glass, there will be a space left for the air to enter, and the consequence will be that the film will soon begin to crack, and then peel off and look shabby. The designs are

usually sold in sheets, several being on the same, and it is advisable to lay on the glucine before cutting them out. It will not signify if the whole of the sheet is not to be used at the same time, as the glucine will not prevent the designs from keeping well until they are required. Besides these sheets of designs, the glucine and its brush have to be purchased, a bottle of enamel varnish and appropriate brush, a few sheets of blotting-paper, a roller, and some lead foil. The whole of the materials will cost about 3s. 6d. exclusive of the sheets of designs. These vary according to size, the most elaborate being, of course, slightly dearer than the more simple ones. A substitute for a roller may be found in a small glass rolling-pin or wooden ruler. One of the fancy rollers covered with blotting-paper answers as well as any of the more expensive ones, and can be had from 1s. upwards. After the papers have been prepared, they must be set aside to become thoroughly dry. This will probably take two or three days, greatly to the disappointment probably of an impulsive worker, whom we must caution not to yield to the temptation of placing the sheets near the fire, or in the sun, to dry. Should this be done, a difficulty will be found in restoring them to the desirable state of flatness when the time comes to lay them on the glass. Meanwhile the leading may be proceeded with. It is far easier to manage the work if the window is out of its frame than if it is

left in its natural position. Though it is quite possible to do it under these circumstances, it involves a great deal of stretching and reaching about, which is often more fatiguing than desirable.



Fig 1.

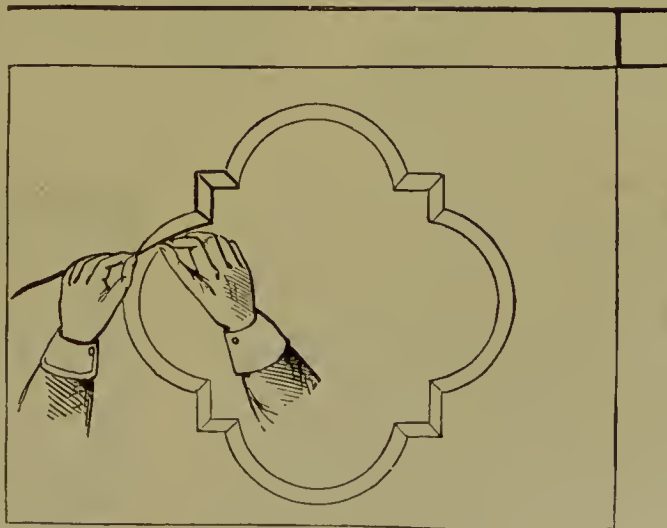


Fig. 2.—LAYING THE FOIL.

We will consider, then, that the glass is out of the window, and laid on a table ready to be ornamented. The first thing to do is to plan out the window. Suppose the design is to consist of a figure, an ornament below this, a frame, and two narrow side borders, such as that shown in Fig. 1. Make a sketch on a piece of white paper the exact size of the pane, rule lines with a pencil to mark the boundaries of the centre panel, the medallion below it, the frame, and other parts of the design. This can be easily done by tracing the outlines of the prepared sheets before they are coated with glucine.

Lay the paper plan flat on the table, and place the glass over it. Fasten it to the paper, at intervals along the edges, with some of the small letter-clips often to be bought in the London streets for a penny each. The leading consists of lead foil, which is to be had in sheets. These have to be cut into narrow strips, about one-eighth to one-quarter or half an inch in width, according to the size

of the design selected. They will need careful cutting, as the resemblance to glass will not be good unless they are tolerably exact. Coat them well with gum, and fasten them down as shown in Fig. 2; the right hand must guide and press down the strip as the left one holds it over the outlines. It must be

remembered that it is always well to begin as near the middle as possible; for, if the sides are done first, the lead foil is pretty sure to get disturbed while the centre is in progress. In turning a corner, or rounding a curve, the lead foil may be slightly creased, as all such wrinkles can be rubbed down with the

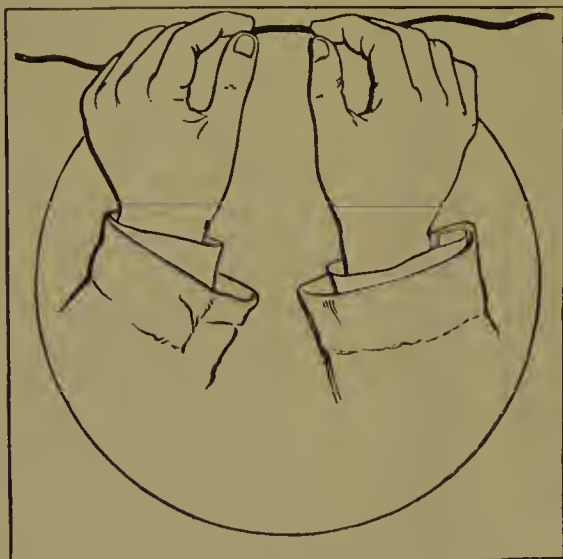


Fig. 3.

handle of a bone crochet-hook, a paper-knife, or, better still, an agate burnisher. In the same way, in following certain sloped lines, it is quite possible to stretch the foil slightly, so that it falls naturally round the curve without any wrinkles, as shown in Fig. 3. The beginner must not be discouraged if the first few strips of foil break while this is being done. It is quite easy to join them, by allowing them to overlap about the eighth of an inch, and then rubbing them down.

When all the foil has been laid on, it must be left to get perfectly dry, or it will be displaced when the time comes to apply the pictures. The glucined sheets are next cut up to fit the space for which each is intended, but a margin of an eighth of an inch should be left all round, so that when they are pasted down, the edges slightly overlap the lead foil. Soak the design in clean cold water for a few moments, and meanwhile moisten the glass and lead foil, too, with a wet sponge. Take the design out of the water, let it drip for a few seconds, to allow the superfluous moisture to run off, and place it in its proper position on the glass, coloured side downwards. Take the roller, and roll the picture firmly, but with no undue pressure on the glass, and with great care that it shall stick to it everywhere. Not even a space as large as a pin's head should be left for the air to get in between the glass and the picture. It is a good plan to keep the paper moist even while the rolling process is going on, and this may easily be managed by placing a few folds of damp blotting-

paper between the picture and the roller. This will also serve to prevent any of the glucine working off from the under side of the picture on to the roller.

When the worker is fully confident that this part of the business has been thoroughly accomplished, that all is neat and tidy, and the sheets accurately fastened to the glass, the operation of removing the white paper from the back, or, rather, what is the front of the picture in its present position, must be begun. The design must still be kept moist. With the wet point of a penknife lightly raise one corner of the paper. If the directions have been carefully followed, it will be found that this can be gently peeled off, leaving the picture like a coloured film upon the glass. There is a knack about doing this that is not to be acquired all at once. The paper must not be allowed to get perfectly dry, and must be slid, as it were, off the picture, not dragged or pulled. The coloured film upon the glass must next be washed with a sponge squeezed out of clean cold water. This is done because the clearness of the picture would be marred if any remains of the paper were left upon it. The glass may then be dried by laying a sheet of blotting-paper over it and rolling it again gently with the roller. This again serves to press it well down to the glass, which must next be left for a time to finish drying. If by any accident the film has become much creased, torn, or disturbed by pulling off the paper, it must be removed at this stage of the proceedings with a sponge dipped in warm water, and a new piece of colour put on in its place. Care must

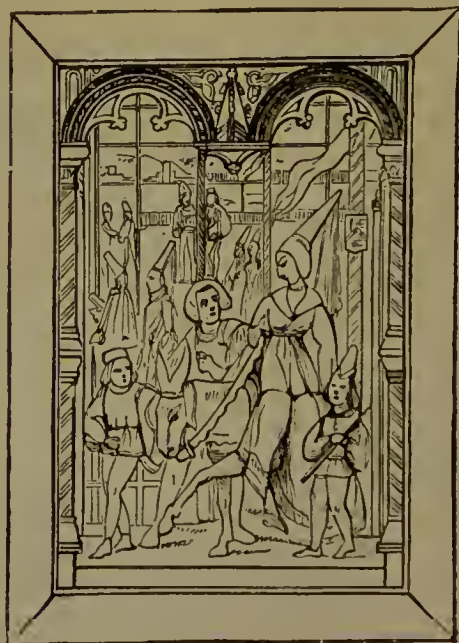


Fig. 4.

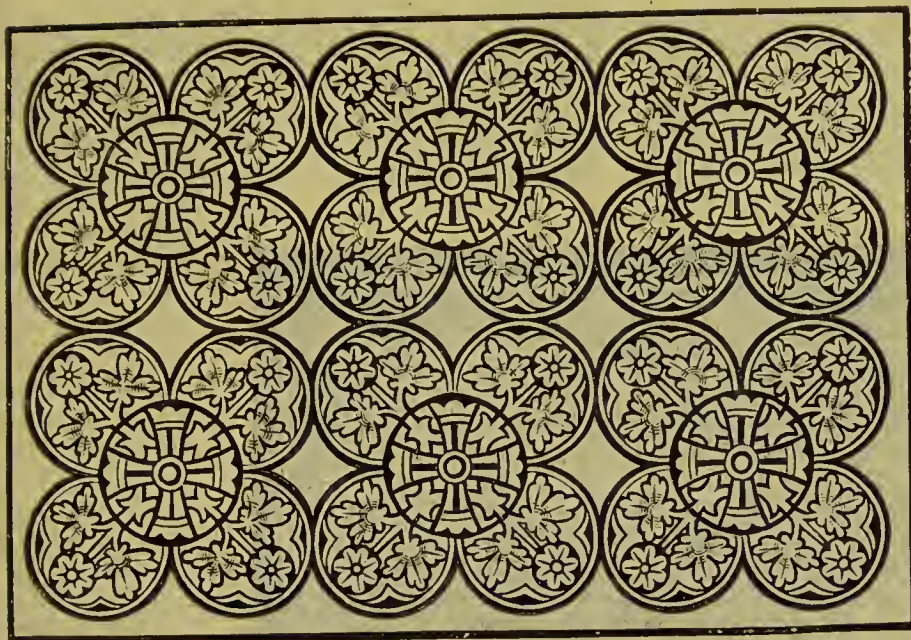


Fig. 5.

be taken that the water is not too hot, or it will disturb the leading, and require the work to be begun again from the very beginning.

The operation of leading is now repeated, the strips of foil being fastened exactly over those of the first set. In this way the edges of the coloured material are enclosed between the two layers of lead, and are thereby rendered more secure. This will not be the case, however, unless they are very firmly glued down. The glass, too, will have the advantage of looking as well from the outside as from the inside of the room. It is just possible when this stage of the operations is reached that a small crack or two, or even a zigzag tear, will be found across the film, made probably while putting on the second set of leading. These may, however, be easily remedied by a few touches of either oil or water colours. If the former are used, they should be mixed with a little proper medium to ensure their adhering well to the glass.

The varnish has next to be applied. There is a special make sold for this purpose which goes by the name of enamel varnish, and which, when dry, renders the decoration so enduring that it can be cleaned at times with a damp sponge without suffering any harm. If two coats are used, the more permanent will be the Vitremanie.

Another plan that can be followed, if preferred, is to utilise starch-paste made at home instead of glue. In this case the paste is laid in the usual way on the coloured side of the picture, and the sheet is then placed in position on the glass, rolled down until it appears to adhere perfectly everywhere, and then put aside to dry for two or three days before the paper is peeled off in the usual way. The only difference is that the picture is stuck to the glass some days before the

paper can be removed from the back; although this often prevents the film from becoming torn when the paper is removed, yet it is not always convenient to have the window of a room rendered opaque for so long a period. Hence the plan first detailed is more convenient when the window is not removed from its frame, and *vice versa*.

Should the decoration be wished extra durable, it is as well not to remove the plain glass of the window at all, but to prepare duplicates of the panes, and to cover these with the Vitremanie. By

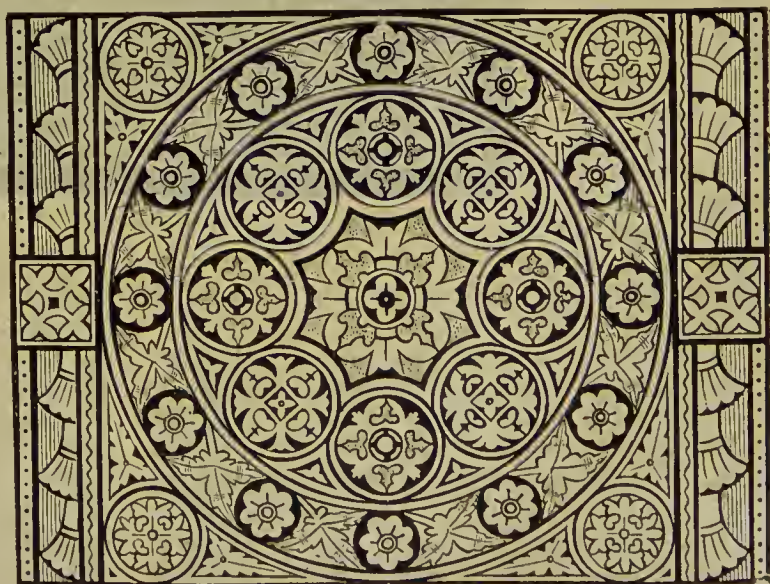


Fig. 6.

fastening the coloured glass over the other, and arranging so that the side upon which the decoration has been effected is between the two layers of glass, the work is rendered practically everlasting, and yet can at any time be removed, if desired, without interfering in the slightest degree with the ordinary window. If it is not possible to arrange that the decoration shall be fixed in this way, the work, if properly executed, will still be found sufficiently durable. Specimens of it we have seen lately were done about fifteen years ago, and are still as perfect as if they had been finished only last week. Even in the colonies, where the work is exposed to greater extremes of temperature than in this country, it is found not to be influenced in the least by sun or heat. The inventor of the process is Mr. William Barnard, of 119, Edgware Road, who keeps a large stock of designs ready for transferring, besides specimens of the finished work.

Turning now to our illustrations, we find represented in Fig. 4 a pane partially filled in with a panel of Vitremanie. The border is left free, the lead-foil only being in place, and requires filling in with a narrow border such as that in Fig. 1. In choosing this, it will be found to be sold probably in lengths of from half a yard to a yard. Before cutting it to fit the corners, these must be carefully planned, so that the pattern shall meet exactly. If this is too

troublesome—and much will depend upon the style of the design chosen—the line of leading placed diagonally across the corner in our illustration may be omitted, and its place taken by a small square design, such as those placed at intervals along the edge of that in Fig. 7. A repeat pattern is given in

Fig. 5, which is appropriate for filling in spaces such as are sometimes left below larger panels. In Fig. 1, for instance, the space below the figure of the cavalier is filled with a round medallion; but a band similar to that in Fig. 5 would answer quite as well, and have even a better effect than the medallion, which somewhat mars the appearance of the centre. The border of which a portion is given in Fig. 6, is a very handsome one, and can be easily matched in squares for the corners. In choosing such a pattern as this, the measurements, both of the space to be

filled and the border, must be carefully taken, as otherwise the large bold pattern of which it consists will not fit in exactly, and will then be far from satisfactory. For a beginner, a flowing border more like that in Fig. 7 is easier to arrange. This window in Fig. 7 is far more elaborate than any of the others, consisting as it does of a centre panel with a curved frame. Above this is a quatrefoil containing heraldic devices: portions of similar quatrefoils are placed at the edges, and the whole is filled in with a groundwork in a pattern similar to those shown in Fig. 8. The curved



Fig. 7.

design may be bought in a sheet in the usual way, as it would be a difficult task otherwise for an amateur to fit it in with the required nicety. The space beyond is filled in with glass of a plain colour, broken by roundels of a small pattern corresponding to the others. In transferring such a design as this, the centre panel must be arranged first, then the border. The quatrefoils are laid on next, the background being placed after these are completed. This will need accurate cutting and fitting, as it will not do for the film to overlap beyond the lead foil; but it is easily managed if a plan is first carefully made of the outlines of the design. An outer border, such as that in the window illustrated, may not unfrequently be had all in one piece, so that no difficulty will be experienced in fitting it in. Such designs are generally to be had sloped in different ways, according to whether the window to be filled is lancet-shaped or round-headed.

A certain amount of taste is to be exercised in the designs, which must be selected with due regard to the architecture of the house in whose windows



Fig 8.

they are to be placed, a great deal of the effect of these substitutes for stained glass depending upon the care with which the patterns are chosen. Nothing could look more absurd than a Gothic villa, for instance, with the windows filled with Italian allegorical figures. There is no excuse for this, as the pictures are to be had in every conceivable style. Mosaic, heraldic, geometric, floral, and sacred designs may be had, which have been selected from Renaissance, Mediæval, and Gothic periods of art. In the same way the borders intended to surround central designs must harmonise with them in colouring and general style, and the same applies to the grounding, the pattern of which must accord with the border. Designs of fruit and flowers look best with a geometric background, while Scriptural subjects blend well with rather formal arabesque borders. Attention must also be paid to the proper proportion in size of parts of the design; colossal birds or butterflies, for instance, would look absurd against smaller human figures or certain flowers. The worker will soon learn to choose those designs in which the colours are more artistic than others; the pinks and greens are not so

satisfactory as the crimsons, deep blues, chocolate, and other browns.

Renaissance Work.—We take next the second class of imitation stained glass, such as is made by washing the surface of the glass with variously tinted fluids. This has been invented by the Crystolcum Company, and will be found both simple and interesting to execute. For this method of colouring glass it is absolutely essential that the glass be taken out of the frame, and the reason for this will be clearly understood later on. A striking feature of "Renaissance Glass Staining" is the perfection with which the leading is imitated;

even that elaborate tracery so characteristic of certain periods, from one of which the art takes its name, being successfully copied. The leading is made most ingeniously of cardboard, which is concavely moulded, and coloured to imitate leaden bars.

As in other cases, the first thing to be done is to make a tinted cartoon showing the design and scheme of colour that

have been decided on, and to place this on a table, fixing the glass over it with touches of gum at the edges, or with letter-elips, as before detailed. The plan of using elips instead of gum will be found rather more convenient by most workers, as the glass can be then easily detached from the paper if required. The leading is fastened down to the glass first, round the edges. Fish glue or a special kind of gum sold for the purpose should be used, and care taken that none of it escapes beyond the leading on to the surface of the glass, or it will interfere with the colour that is to be laid on by-and-by. Press the leading down firmly and evenly with a soft cloth, which will also serve to wipe the edges, lest perchance any of the glue should have oozed out. Occasionally this happens, and is not discovered until the leading has been arranged, and when this is so the superfluous glue can be removed by scraping the glass with a knife and then rubbing it with turpentine.

In this style of leading the corners and curves are less easily managed than in Vitremanie. Here it is necessary to cut them with a sharp knife and to mitre them together to fit the angle exactly,

much as the corners of a picture-frame are dove-tailed. What is known as "soldering paste," specially prepared for the purpose, is next required, and with this the joins are covered. It is placed upon the leading in the form of small bosses or knots, and when partially dry—that is, in the course of a few minutes—is dusted over with a metallic powder, which renders the resemblance to actual lead-work almost perfect. After this comes another time of tedious waiting while the leading is becoming set and securely fixed in its place. It is better not to continue the work until the next day. Once the worker becomes a little experienced, he or she will find out how to arrange so that whilst the leading on some of the windows is becoming settled the colouring of others can be proceeded with, and in this way the delay will not seem so long.

The glass must next be thoroughly cleaned and rendered free from the smallest atom of grease, or it will not take the colour well. The artist, when this has been done, must remember on no account to handle the window, or let the hands touch it anywhere except at the extreme edges. The coloured cartoon may now be removed from the glass, but it must be kept near at hand, to be easily referred to as a key to the tints to be employed. The colours are liquid, and are sold in bottles ready for use. The common colours are blue, violet, crimson, scarlet, yellow, and green. Many different shades may be made from these by diluting them more or less, according to the tone required, with the solvent that is used with the solder. The mixture must be well shaken frequently while in use, to ensure a thorough blending of the two liquids. The colouring is applied to the reverse side of the glass to that upon which the leading has been placed, otherwise the fluid colours would be apt to disturb it. The tints, being very liquid, are floated over the surface of the panes without being touched with a brush at all. The glass is held horizontally in the left hand, and the colour poured from its bottle, with the right hand, over the upper part of that section of the glass which it is intended to cover. A little practice is necessary in order to determine the quantity of fluid that will be required. The glass is gently tilted, and slightly shaken to guide the flow of colour, until the whole of that section of the design is filled in. The pane is then held cornerwise in a perpendicular position, to enable the superfluous colour to run down and drip off at one corner. In the course of a few moments a cloudy appearance will be seen gradually creeping over the tint. When the whole surface of the colour has become thus dimmed the glass may be restored to a horizontal position on the table, as there is now no fear that any of the colour will flow into sections in which it is not required. The fluid that has run

across the glass during the draining process may be wiped off with a piece of soft rag, but if it is already too dry to enable this to be done easily, a few drops of spirits of wine will at once have the desired effect. The brilliancy will soon return to the tinted portion of the glass, and another colour may then be floated on to a second portion of the design in the same way.

As in so many other and similar arts, it is advisable to begin as nearly as possible in the centre of a design and to work gradually outwards. In this way each corner in turn may be used to pour off the superfluous fluid from. The last sections of all to be coloured should be those that come quite in the corners of the glass, so that they can be used up to the last moment for draining purposes. Once more the glass must be set aside, and this time again it should not be touched until the next day. This will enable the colours to become fully set. If the work seems to require it, a second series of leading may be fastened on that side of the glass upon which the colouring has been executed, but in ordinary windows this is scarcely necessary. In some few instances, in which the glass is seen on both sides equally, this double lead-work will be found a great improvement. The colouring is exceedingly durable, and the glass when thus stained can be rubbed hard with water or even turpentine, without suffering in the least. At any time, if desired, the colouring may be taken off by spirits of wine, but it is not altogether easy to do this. The leading may be arranged in the same way as for Vitremanie, if this plan is considered more convenient. In this case the lines to be covered with leading should be drawn first with a brush dipped in vaseline, glycerine, or some similar greasy liquid. This is done to keep the colours within proper limits. When the colours are quite dry the grease must be wiped off the glass, and the lead foil applied in the manner before described.

Embossing and Etching.—Very ornamental panels may be made for ordinary windows by the process known as "embossing," and which is similar to that employed by professional workmen in sign-writing, the letters being more durable and more easily kept clean than those made in any other materials than glass. As is now well known, there is but one acid that exercises any decided influence on glass: this is fluorine, or hydrofluoric acid. Great caution is necessary in its use, as it is not only very injurious to the flesh if the hands come in contact with it, but the fumes are dangerous if inhaled, and produce at least a severe headache if any worker in his ardour stoops too low over the glass. The hands should be kept slightly greased, and if any acid

should fall on the naked flesh—for few can use gloves comfortably when at work—they must be at once dipped into cold water and wiped dry with a soft cloth. It is advisable, if possible, to work out of doors, for then the disagreeable effects of the acid are not so readily felt. Needless to say, as the acid works so powerfully upon glass, it is useless to keep it in a glass bottle—gutta-percha is generally used, as being inexpensive, but silver, lead, or platinum flasks answer as well. The acid costs about eighteen-pence a pound, and may be had from any manufacturing chemist. It is never used in a pure form, but is largely diluted with water. This does not in the least affect its “biting in” properties, and the usual proportion is two-thirds of acid to one-third of water. This is the usual mixture for plate-glass, but if “flashed” glass is used, a weaker solution, made by mixing equal parts of acid and water, will be sufficient.

The design for embossed glass has to be drawn first with dead black ink upon the oiled tracing-paper used by architects and professional draughtsmen, and the lines are to be put in so deeply that they show through quite distinctly to the wrong side. This wrong side of the paper is placed uppermost on a table and the glass laid over it, as the work is all executed upon what is considered as the wrong side of the glass. Next trace the design carefully and smoothly on the pane with a very fine brush filled with Brunswick black. The lines must be perfectly smooth, and not in the least degree jagged. Let this dry well. Now, if the design is to be left clear against a background of ground glass, it is necessary to paint the whole of the glass beyond the design with Brunswick black. The reason for this is that the Brunswick black, being of a bituminous nature, is not in the least degree influenced by the acid. In Fig. 9 a design is given with a portion of the Brunswick black left, to show how exactly and carefully it must be taken in and out between the outlines.

The glass must now be set aside for at least twelve hours, in order that the black may become perfectly dry. If the acid is used before it is set—and it often appears set when in reality it is still quite soft below the surface—the design will be muddled and indistinct, instead of standing out clearly and sharply against the background.

The next day, then, grease the face of the glass and the edges, and lay it face downwards in a gutta-percha or vulcanite tray, such as those used by photographers in toning. If this cannot be done, lay it quite flat on the ground out of doors, or upon a bench or old table that will not be injured should any of the acid chance to overflow upon it. It is very essential that the glass shall be quite flat, as otherwise the acid will lie more thickly on it in some places than in others. A spirit level will soon show if it is not quite accurately placed. Make a stiff paste of beeswax and tallow in equal proportions, and

build with it a ledge or wall all round the extreme edge of the glass, not less than three-quarters of an inch high. See that there are no weak places in this wall, as its object is to prevent any of the acid from escaping. Now take the bottle of acid and water, and holding it low down so that it will not splash, pour it gently over the glass. Let it rest equally on the surface of the glass for about a quarter of an inch in depth. In about half an hour, or perhaps less, according to the thickness of the glass (this must be judged by the discretion of the worker), the acid may be drained off the glass and back into its bottle, a small breach being made in one of the corners of the waxen ledge for the purpose. If a gutta-percha tray is used, this high ledge will not be required, as the back and edges only of the glass need be greased.



Fig. 9.

The glass will then have to be lifted out with a pair of pliers or a photographer's plate-lifter, and washed well with cold water. It is necessary to watch the glass while it is in the bath of acid, to be sure that the acid is not eating too deeply into it. This can be ascertained by rubbing it occasionally with a small dabber, made by twisting cotton-wool over the end of a stick to make a knob, and then covering it with a piece of sheet india-rubber.

Now comes the task of removing the Brunswick black, which may be done with soap and water, turpentine, or paraffin. The Brunswick black will be somewhat difficult to get off near the outlines of the design without marring their smoothness. The glass looks very well if the background is ground, and especially so if plate-glass is used, and the design is to be left clear and not coloured. This requires a considerable degree of patience, and takes a long time to do well. It is a purely mechanical

business, and is effected by simply rubbing the glass evenly all over with emery powder and water, with a block of ground-glass. The emery and the block must be kept always damp, or a series of scratches will be the undesirable result. The piece of glass to be operated on should be laid quite flat on a table, over a number of folds of an ironing-blanket or any thick soft material. This will prevent it from snap-

ping, and the progress may be noted. The beginner will doubtless find some difficulty in getting the opacity equal over the whole of the glass, but when once a few inches have become of the desired degree of whiteness, the rest must be rubbed until it matches them. It is more convenient to judge this if the glass is laid over a dark-coloured pad.

Flashed glass is coloured by having a thin layer or

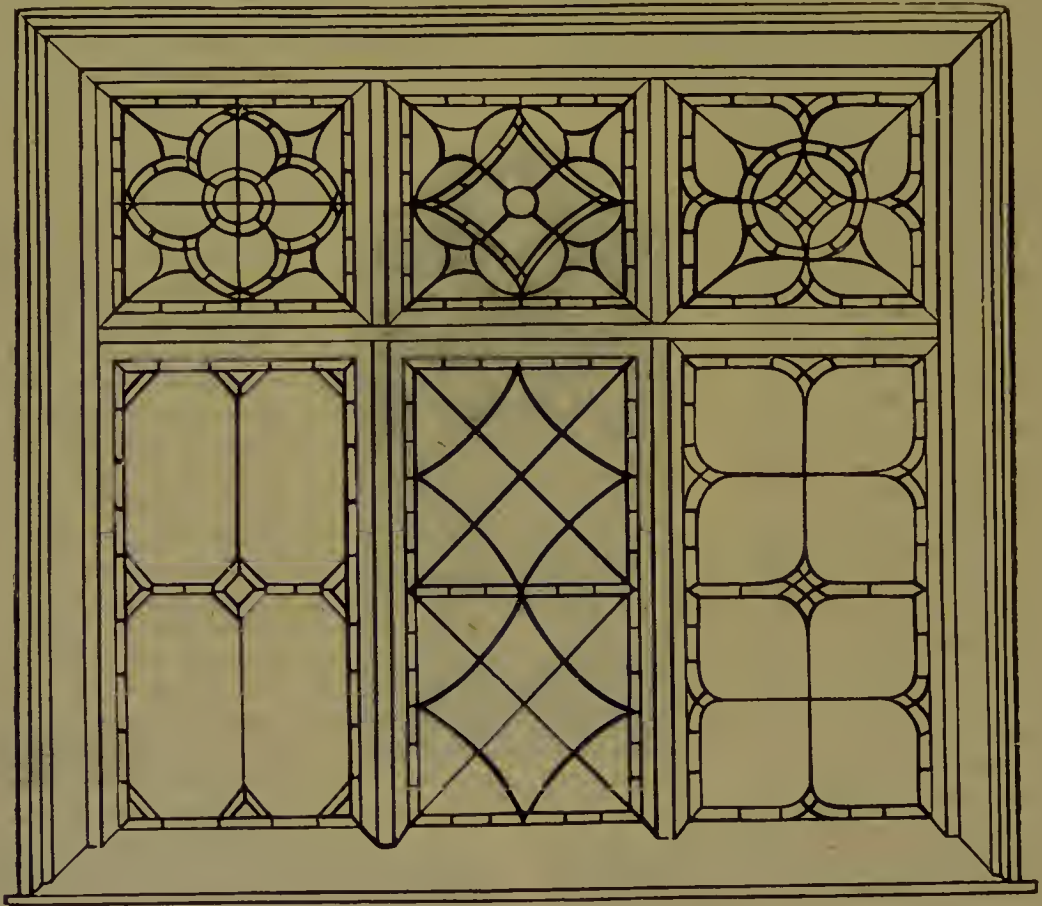


Fig. 10.

ping, and care must also be taken that one edge of it, during the process of rubbing, does not become worked over the edge of the table, for, if the operator happens not to notice this, and goes on rubbing in blissful unconsciousness, and at last rubs over the projecting portion, the glass is almost certain to tilt up, and will probably fly off the table and break in so doing. A tiny block of glass will be necessary to rub the emery with over those portions that lie between the outlines of the design, for the pattern will be spoilt if the rubbing is continued over them. We cannot impress too strongly on the mind of the worker the fact that the rubber and the emery must be kept wet during the whole of this part of the process. The glass may be rinsed occasionally, that

the progress may be noted. The beginner will doubtless find some difficulty in getting the opacity equal over the whole of the glass, but when once a few inches have become of the desired degree of whiteness, the rest must be rubbed until it matches them. It is more convenient to judge this if the glass is laid over a dark-coloured pad.

Flashed glass is coloured by having a thin layer or

vener of tinted glass poured over it when in a molten condition, and a special make, with an extra thin layer of this veneer, is to be had on purpose for embossing. The process is the same as for plate-glass. By biting through the veneer, the design is left in clear glass upon a foundation of coloured. The progress of the biting-in process must be carefully watched, in order that the acid may not remove more than the thin film of colour. It is advisable to work upon a small piece of glass first, and to time the operation, so as to know within a little how long it will take to operate upon the larger pane. If it should be desirable to colour the design instead of leaving it in plain glass, this can easily be done by painting it with enamel colours.

Patchwork.—With a little skill in the use of a glazier's diamond and a common soldering-iron, very pretty work may be done, in patchwork style, for filling the upper sashes of ordinary windows, or for fire-screens. The sketch of the design must be made first in the usual manner, and lines ruled to indicate the boundaries of the various colours. Fig. 10 shows the kind of pattern that is most appropriate for this style of work. The glass is the ordinary tinted glass, odd pieces of which may often be bought

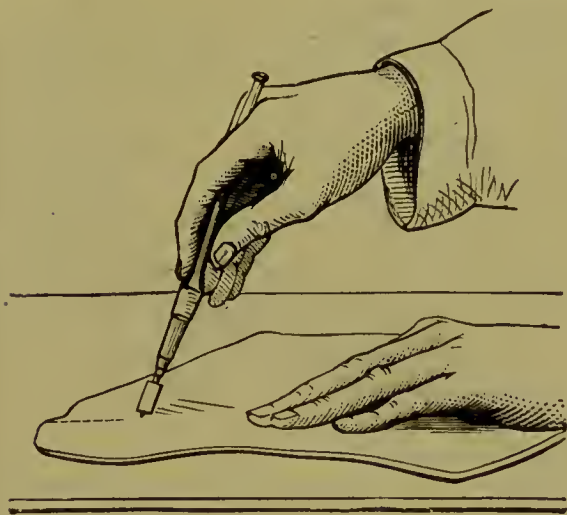


Fig. 11.

less expensively than panes or sheets. The glass, or a piece of it, is laid upon that part of the design for which it is needed, and is cut the proper shape with the diamond. Any working glazier will give a practical lesson in cutting, and a worker will soon learn by a few failures how to manipulate this tool, and will soon find out what it can and cannot do. Fig. 11 shows the manner in which it should be placed between the first and second fingers, and held in position by the thumb. Some cutting tools cut most cleanly when held upright, or nearly so; others work better at a less acute angle. This can only be decided by a little practice, as it is determined by the way in which the diamond is set into its steel socket. In cutting a rather sharp curve, it is necessary to draw the diamond along the curve to mark it first, then to cut a straight line from end to end of the slope. A small pair of pliers is then taken, and the glass that lies between the edge and the curve is nipped off in a series of tiny pieces all along. It requires some skill and "knack" to do this effectually, as a sort of "crisp" movement with the pliers is needed, which cannot be acquired in a day.

When the pieces are all cut out, they have to be joined by the leading. The strips of lead used

are thin, and can be easily bent or cut with a knife. The edges of the glass are fitted into the lead, and kept in place with putty. This is pressed into all the cracks that lie between the lead and the glass with a blunt knife sold for the purpose. Powdered lamp-black is finally dusted over the leading to darken the rim of the putty, and the window must then be left untouched until the cement is perfectly set. Wherever it is necessary to join the lead, the soldering-iron will be required. One piece of lead must be cut at the end into a sharp point, and laid inside the groove of the piece to which it is to be joined. The edge of the upper piece of lead is well scraped and pared down to the level of the lower strip; the join is covered with powdered resin; heat is applied by means of the hot soldering-iron, which is well rubbed over the end of a strip of solder until the two leads appear thoroughly welded together.

Glass Painting.—Transparent painting on glass is sometimes executed nowadays for window panes in the same manner as for the slides of magic-lanterns, but has the disadvantage of not being durable unless a second piece of glass is laid over the colouring to protect it. Sable brushes are used, moist water colours, turpentine, and clear varnish. A transparent easel is also a convenience; but many artists find they can manage very well without it by working in a strong light close to a window, and by frequently holding up the glass so that the light falls through it, they can judge of the effect of their colours. A design such as those prepared for Diaphanie is often useful as a copy. The colour is laid on in a series of flat washes, each of which is fixed by a thin coat of clear varnish, which prevents it from running when the next wash is applied. Even though some of the sections of the design may be rather small, a bold flat touch must be used in applying the colours, in order to get the tints to set quite evenly upon the surface of the glass; if this is not attended to in the first washes, it is not easy to rectify the mistake without cleaning the colour off and beginning over again.

If leading is required, it may be applied in the same manner as in Vitremanie, but can be much improved by being raised over a foundation of plaster of Paris, which is laid all along the lines of the design. The lead foil is then cemented firmly down to the glass over these ridges of plaster. The bosses so often seen in old lead-work may easily be imitated by moulding the plaster into the required form. Attention must be duly paid to the cementing of these leaden bars, as nothing would more decidedly prove the glass to be a sham than if the leading were to peel off the surface in a manner that would be an absolute impossibility in the real thing.

FEVERS AND CONTAGION.

Contagion.—For an accurate appreciation of the various problems connected with the propagation of the different specific fevers it is necessary to have some acquaintance, however slight, with the modern theories of contagion. By contagion is meant the property and process by which, in certain diseases, the affected body causes a morbid process identical with its own to arise in other bodies with which it is brought into contact or proximity. This principle of contagiousness is common to many acute diseases and fevers. The influence of contagion in spreading destruction, not only amongst human beings, but also amongst domestic animals, and members of the vegetable kingdom employed for the purposes of food, renders it of immense social importance. Fermentation is a species of contagion, and to its influence we owe the production, not only of alcohol and vinegar, but of an immense number of products in daily use, both in the arts and sciences. The various specific matters or products which give rise to contagion have this property in common, that in appropriate media, and under favourable circumstances, they have the power of self-multiplication to a practically unlimited extent.

The various contagia with which we are familiar may be roughly divided into two classes—Parasites, and true or Metabolic Contagia. The best example of parasites in relation to contagion is to be found in cases of Trichinosis, and it is well known that in Germany and other countries vast epidemics have been traced to infection arising from eating pork abounding with trichinæ. The true or Metabolic Contagia are familiar to us in such instances as small-pox, measles, scarlatina, whooping-cough, enteric or typhoid fever, mumps, typhus, diphtheria, and erysipelas. These various diseases breed true, and the contagion of, say, small-pox can no more give rise to scarlet fever than an acorn can produce a chestnut-tree. It is undoubtedly the fact that some persons are more prone to acquire certain diseases than others—are more “receptive,” to use a common term—just as certain kinds of soil are better adapted than others for the growth of certain kinds of plants.

The mode in which Metabolic Contagia are conveyed from one person to another is a subject of considerable practical importance to the community, and it is one which has been largely studied of late. Various agencies may be instrumental in this work, such as bedding or clothing, or towels which have been used by the sick, dirty or unwashed hands, dirty instruments and utensils of all kinds, the washerwoman's basket, an ill-attended laundry, a foul and contaminated water-supply, defective house-drains, or infected food or milk. Each contagion

has its own favourite or specific channel or mode of entering the body; thus some enter by the lungs and the air we breathe, others prefer an abraded surface of the skin, whilst others again are absorbed by the mucous covering of the stomach or bowels. There is usually a period of quiescence or incubation before the poison makes its effects felt, and this period varies from a few hours to many days, in the case of different fevers.

When the natural history of these various contagia is understood, little or no difficulty will be experienced in preventing the disease from spreading. It is by the neglect of the most elementary precautions that contagious diseases are spread from one to another. So much ignorance prevails on the subject, that children convalescent from scarlet fever are sent to school and allowed to mingle with the healthy, regardless of the consequences; and lodging-house keepers let their rooms without hesitation to unsuspecting tenants, who sleep blissfully in beds which were perhaps occupied the night before by someone suffering from small-pox, diphtheria, or some other infectious disease. Water companies are notoriously callous, and think nothing of turning on typhoid fever with the water-supply of a whole district. It is true that there are legal restrictions, and that penalties on conviction are severe; but few people care to undertake the trouble and expense of a prosecution, and the offenders too often escape punishment.

Notification of Infectious Diseases.—The Infectious Disease (Notification) Act of 1889 enacts that where an inmate of any building used for human habitation is suffering from an infectious disease, then, unless such building is a hospital in which persons suffering from an infectious disease are received, every medical practitioner attending on, or called in to visit, the patient, shall forthwith, on becoming aware that the patient is suffering from an infectious disease, send to the medical officer of the parish a certificate stating the name of the patient, the situation of the building, and the nature of the disease. Neglect to comply with the provision renders the person required to give notice liable to a fine of forty shillings. The infectious diseases to which the Act applies are small-pox, cholera, diphtheria, croup, erysipelas, scarlatina or scarlet fever, typhus fever, typhoid or enteric, and all continued and relapsing and puerperal fevers. It is not unlikely that the provisions of the Act will before long be extended to other infectious diseases. The matter is of such grave importance that special attention is called to the provisions of the Act. The

certificate or notice may be sent to the medical officer of health by being delivered to him personally, by being left at his office or residence, or it may be sent by post. It is required that notice should be given "forthwith."

Preventive Insurance.—A movement recently organised by the working men of Sheffield deserves to be widely known and as widely imitated throughout the country. The object of the movement is to diminish the risk of spreading infectious diseases by indemnifying members for any loss of wages they may suffer through abstention from work when dangerous maladies of this kind exist in their homes and households. During a recent severe epidemic of small-pox, it was felt that some systematic attempt should be made to limit, as far as practicable, the area of infection, by isolating every member of the family whenever one of them happened to take the complaint. To do this it was necessary to insist upon workpeople—in many cases the bread-winners—abstaining from their usual occupations for a more or less lengthy period, a step entailing a good deal of loss and hardship upon a large number of persons, besides tempting others to conceal the fact of there being anything wrong at home. These considerations moved the *employés* of Messrs. James Dixon and Sons, the ironfounders, to take action in order to deal with the matter in a systematic fashion. They held a meeting, and voluntarily raised a fund by a levy all round of 6d. in the pound on their average wages. The amount thus obtained was devoted to the relief of sufferers belonging to their body, and to giving compensation to those who were obliged to abstain from work owing to any member of their families being stricken with contagious disease. A meeting of the association was lately held, and it was stated that they had been instrumental in giving compensation to the extent of nearly £170 in twenty-three direct and fifty-three indirect cases. Messrs. Dixon and Sons have warmly co-operated with their *employés* in the matter, and have shown their sense of its importance by contributing a third of the amount distributed. They also made the suggestion that the association should be a permanent one, with a regular fund upon which they might draw in future cases whenever sporadic scarlet fever, typhus, and typhoid fever, and similar infectious diseases, occurred among them. This suggestion has been acted upon, and with every hope of proving beneficial alike to the outside community and the working people themselves.

Since the "fund" was first started by Messrs. Dixon and Sons' working people, the idea has been taken up all over the town, and the movement has spread in Sheffield with the most gratifying rapidity.

At the present time the number of assurance funds of the kind organised in the various works and manufactories of the place is over one hundred and thirty-two; the number of individual members thus insured against loss in case of a contagious disease afflicting any one of their families is upwards of thirty-three thousand; the number of direct cases to whom compensation has been awarded in the past few months is six hundred and sixty-seven, and the number of indirect cases no less than thirteen hundred and sixty, making a total of over two thousand in all, and entailing an expenditure of over £6,000—every penny of which was voluntarily raised by the working men of Sheffield and their employers. These figures are far from contemptible, and reflect the highest credit upon the good sense and practical wisdom of the Sheffield working classes. But these particulars, it must not be forgotten, give no idea whatever of the whole good accomplished by these organisations, in the shape of danger to the public health averted, and risk of infection diminished in the town.

It is not easy to over-estimate the value of such a provident movement as that so successfully initiated and carried out at Sheffield. In the interests of the public health, nothing could be more desirable than the multiplication of similar funds all over the country, calculated as they are to relieve families suffering from infectious complaints, while diminishing the risk which the community outside always runs whenever such diseases make their appearance either in an endemic or a sporadic form.

In the following pages a brief account is given of the characteristics of the various infectious diseases and fevers, definite rules being in most instances laid down for the prevention of their extension to the healthy and uncontaminated. The whole being too long for one chapter, we here deal only with those specific fevers which chiefly affect children or young persons, reserving small-pox and typhoid fever for another article.

Scarlet Fever.—Scarlet fever and scarlatina are one and the same disease. A patient is often said to have "not scarlet fever," but "only scarlatina." The statement is absurd, for the two names mean identically the same thing. The use of the term scarlatina is misleading, and is calculated to do harm, for people when they are told that it is "only scarlatina" often neglect the precautions they would take if they were told straight out it was scarlet fever; and the result is, the disease spreads. Scarlet fever is very contagious, but it is not the most contagious of the fevers; it ranks between measles and whooping-cough above, and typhus fever and diphtheria below. The contagion persists a very long

time, and the case is recorded of a lady who was infected from wearing a cloak which had been folded up and laid aside for eighteen months.

Articles of clothing once infected undoubtedly retain the infection longer than anything else. The removal to a hospital of an infectious person is often rendered of no avail, owing to the fact that some infected garment has escaped observation, and has been put away until some occasion for its use has led to the reappearance of the disease. For instance, a child was removed to a hospital with a view to preventing his brothers and sisters contracting scarlet fever, from which he was suffering. Great care was taken to prevent him, on leaving, from taking away anything he had used during his illness. Some time after this, during the removal of the family to another house, his mother noticed a toy which had been in his possession while ill, in the hands of a younger brother who had until then escaped. Within a few days this child, too, sickened with the disease, and shortly afterwards died. The toy must have retained for a long period the infection, which had only awaited its opportunity for the production of a fatal disease. That the disease may be conveyed by letters written in the sick-room is undoubted, and it is equally true that scarlet fever may be conveyed by the milk obtained from a shop or dairy.

The fact that scarlet fever could be caused by infected milk was first discovered by the late Professor Bell, of St. Andrew's, who investigated an outbreak of scarlet fever in that town in 1870, and believed that the milk became infected by the milk-carrier and her children, who were suffering from this disease.

But about three years ago Mr. W. H. Power, of the Local Government Board, investigated the circumstances of an extensive outbreak of scarlatina which occurred in Marylebone, and was believed to be connected with the distribution of milk from a particular farm at Hendon. He came to the conclusion, supported by very strong circumstantial evidence, that the milk had not been merely the vehicle by which infection was communicated, but had itself originated the disease. Epidemics, both of typhoid and scarlet fever, had previously been caused by the agency of milk; but there had always been some history of infection by illness among the milkmen or their families, and nobody had imagined that the cow was the culprit. Mr. Power, however, after a laborious and patient enquiry, satisfied himself, in the first place, that the Marylebone epidemic was due to milk from the Hendon farm; secondly, that it only affected customers who were served with the milk from particular batches of cows; thirdly, that these cows alone were affected by a disease of the udder; and fourthly, that there was no case of scarlatina from which the

milk could have been infected. Moreover, when Dr. Klein, the celebrated pathologist, examined some of the incriminated cows, he identified a particular microbe or germ as common both to the cow-disease and to scarlatina; and when he inoculated calves and mice with human scarlatina they exhibited the same symptoms as the Hendon cows. Mr. Power's conclusions are generally accepted by the scientific world—especially as they have been in the main confirmed by Professor Brown, C.B., the well-known veterinary surgeon.

Professor Brown says that "nothing worse than the insanitary conditions of life of the average dairy-cow can well be imagined;" and he thinks that "these must inevitably lead to contamination of milk with septic bacteria, and often with infective matter, not only from consumptive cows, but also from the attendants, who are subject to little or no supervision." He regards it as unquestionable that "contagious fevers are often disseminated widely and rapidly by the agency of infected milk;" and he thinks that "the slightest sign of udder disease should be accepted as a sufficient reason for excluding the particular animal's milk from the common stock." Indeed, he goes so far as to say that "the authorities should only allow the trade of dairyman to continue on condition of special precautions being taken to ensure not only perfect cleanliness, but the continuous supervision of the health both of cows and milkers."

The only way to make milk absolutely safe is to boil it before using it. Our knowledge of the circumstances under which milk becomes infected is too vague for us to rely with confidence upon such precautions as we are able to take to prevent its infection; but we only follow the dictates of common sense if we entirely reject as food for man the milk of any cow which has recently calved, or of any animal not in perfect health.

Scarlet fever attacks children far more commonly than adults; and this may be explained by the fact that it is a disease which when once suffered from affords, as a rule, immunity from subsequent seizures. Cases do undoubtedly occur in which the disease has broken out a second time, but they are comparatively rare.

The onset of the attack is always sudden, the patient being seized in the midst of apparent health with shivering or vomiting. There is always high fever, the thermometer often marking within the first few hours a temperature of 104° Fahr. The value of the thermometer in a doubtful case is very great, and when there is any suspicion of the possibility of scarlet fever, the temperature should be taken not once but many times in the course of the day. The pulse runs up rapidly, and instead of being 75 or 80 may be found to be beating 160 or more in the

minute. The breathing is notably quickened, but usually there is no cough. Sore-throat is a prominent and usually a very distressing symptom. Languor, sleeplessness, headache, and pains in the limbs are not characteristic of this complaint, but are common to many fevers.

In from twelve to twenty-four hours from the onset of the symptoms the rash appears, and the patient is covered from head to foot with bright scarlet points, placed so close together that they are actually in contact. The eruption reaches its greatest intensity on the third or fourth day of the illness, and then commences to fade. The sore-throat lasts longer, and may go on to ulceration. The glands at the angles of the lower jaw are swollen, tender, and inflamed. Swallowing is performed with difficulty, and the voice is rough and nasal in quality. The temperature usually begins to fall about the fifth day, and gradually returns to the normal. The quickness of the pulse subsides as the temperature goes down.

After the rash has receded, the skin begins to peel. Sometimes it comes off in little scales like bran, and sometimes it is detached in large flakes. In this condition the patient is most contagious, each separate particle having the power of conveying the disease.

This is the natural course of a case of scarlet fever; but not infrequently it assumes a malignant type, and takes on a much more dangerous character. This is especially apt to be the case when it arises from defective sanitary arrangements, or when the drains in the house are in bad order. In these so-called malignant cases there is often great mental excitement, followed by profound prostration.

After an attack of scarlet fever, various complications may follow. For example, the sore-throat may persistently decline to heal, and the tonsils and adjacent parts may be found to be extensively ulcerated, or sloughing. Then there may be a discharge from the ear, which may result in rupture of the tympanum and permanent deafness. Bronchitis and inflammation of the lungs may set in, or an abscess may form at the back of the throat. Towards the end of the second or the beginning of the third week rheumatism is not uncommon, and may assume an acute form, being followed, perhaps, by disease of the valves of the heart. Dropsy is not uncommon in children, and on examining and testing the urine, the doctor discovers the existence of disease of the kidneys. One of the commonest causes of Bright's disease is an attack of scarlet fever. It will thus be seen that scarlet fever is a most serious disease, and it is hardly necessary to say that the attendance of a medical adviser is

absolutely essential. Even when the attack is apparently slight, it may lead to very serious complications.

In a case of scarlet fever the patient should always be put to bed and kept there; and this rule, to which there is absolutely no exception, applies both to adults and children. The furniture should be removed from the room and the carpets taken up, in readiness for the reception of the patient. The pictures should be removed from the walls, as they harbour dust and dirt of all kinds. The room should be well ventilated by an open fire or some other efficacious means. The diet must be stimulating, and should consist of milk and soda-water, beef-tea, eggs, and perhaps light puddings. Ice may be given to suck, and the patient may have water or lemonade to drink. The whole surface of the body should be sponged with tepid water and soap at least once a day. The application of a little cold cream, vaseline, or lanolin to the skin will be found comforting.

With regard to medicinal treatment, there is little or nothing to be done; but it is a good plan to put ten drops of B.P. tincture of aconite and ten drops of tincture of belladonna in half a tumbler of cold water, and give the patient a teaspoonful of this every hour for the first twenty-four hours. The medicine checks the upward progress of the temperature, lowers the pulse, moistens the skin, and relieves the soreness of the throat. The sooner it is given the better, and the delay of even a couple of hours may be of importance.

For the sore-throat, nothing does so much good as sucking little pieces of ice, allowing them to melt slowly in the mouth. Tabloids of chlorate of potash or of chlorate of potash and borax are excellent, especially when there is ulceration.

If there is much prostration, a little wine or brandy may be useful. The brandy must be of the best, and for an adult the allowance should be from six to eight table-spoonfuls in water in the twenty-four hours.

When there is discharge from the ear, syringing with warm water three or four times a day will do more good than anything. Should there be a great deal of offensive discharge, the addition of a few drops of Condyl's Fluid to the water will be found useful. It is a mistake to put cotton-wool in the ears, as it prevents the escape of the pent-up secretion.

For rheumatism, the best thing is to rub the affected parts either with a little olive oil, or with hazeline.

When the acute symptoms have passed away and the complications have been subdued, the patient should be fed up, should have a plentiful supply of tonics, and be sent away into the country.

The steps which should be taken to prevent the spread of an infectious disease have already been pointed out, but the following additional hints, especially applicable to scarlet fever, may be of use.

The most complete isolation is attained by the removal of the patient to a hospital; and this is essential amongst the poor, where more than one family occupies the same house. Amongst the richer classes it is not at all necessary, but it is essential to isolate the sufferer as completely as possible at home. He should be placed in a room at the top of the house, unless equally well-isolated rooms can be found elsewhere, and he must be confined to the one or two apartments he is to occupy during his illness. It is a good plan to have a sheet soaked in carbolic acid or some other disinfectant hung over the door of the room, with a view to prevent the passage of infected air into other parts of the house. The windows, both of the sick-room and adjoining passage, should be kept open, so as to ensure thorough ventilation. From the room itself should be removed all unnecessary furniture, as well as curtains and carpets, unless it is proposed to destroy these at the end of the illness. If chests of drawers and cupboards are retained, they should be emptied of their contents. The carpet on the passage and stairs leading from the sick-room should also be removed, so that it may not be exposed to infection. The attendants should be selected from those who have previously passed through an attack of the disease, as they are less liable to contract it again. They should not be allowed to come in contact with those who are not already protected, and the rooms they occupy must be avoided by such persons. Their dress should be made of materials which can be readily washed and disinfected. The clothes worn in the sick-room are infectious, and the nurses should, before mixing with others, change everything and thoroughly wash in some room apart from that occupied by the infectious person. Similar precautions must be taken with regard to the food supplied, the articles used, and the linen soiled in the sick-room. The strictest cleanliness must be enjoined upon the attendants, who should never place their hands to their mouths or touch articles of food until after careful and thorough washing. The motions should be received into a bed-pan containing carbolic acid or Condy's Fluid, at once covered, and immediately removed and disposed of; the bed-pan and the pan of the water-closet should be thoroughly cleansed, and the latter efficiently flushed. The same care must extend to all articles which come in contact with the patient, and these should be kept for his use alone. Soiled linen must be at once removed, and placed in a pail or tank containing disinfecting

fluid, and subsequently boiled and washed apart from other linen. In the case of scarlet fever, quarantine should be maintained until the peeling of the skin has ceased. At the conclusion of the illness, great care should be taken to cleanse the body and hair by frequent baths. After the last bath, fresh clothes should be worn which have not been in the sick-room during any part of the illness.

With reference to this subject, it may be as well to point out that certain legal obligations are incurred in connection with an outbreak of scarlet fever. For example, the sanitary authorities are empowered (29 & 30 Vic. c. 90, s. 22), on receiving a certificate from a doctor, to call upon the owner or occupier of a house to cleanse and disinfect the same within a specified time. The penalty for neglect to do so must not be less than 1s., and not more than 10s., a day. On default, the authorities must do the work themselves, and may recover the expenses in a summary manner from the owner or occupier of the house.

Persons suffering from scarlet fever or from any dangerous infectious disorder, who wilfully expose themselves without proper precaution against spreading the same in any street, public place, or public conveyance, as well as those in charge of persons so suffering, are liable to a penalty (29 & 30 Vic. c. 90, s. 38) not exceeding £5. And the same penalty also applies to persons giving, lending, selling, transmitting, or exposing infected bedding, clothing, rags, or other things which have not been disinfected. The penalty does not apply where the transmission is "with proper precautions" to a place where disinfecting is to be performed.

Any landlord or innkeeper who lets rooms in which there has been any person suffering from scarlet fever or any infectious disorder, without the same having been disinfected to the satisfaction of a qualified medical practitioner, as testified by his certificate, is liable (29 & 30 Vic. c. 90, s. 39) to a penalty of £20.

In case of an outbreak of scarlet fever in a large establishment, it may be found convenient to send the sufferers to the London Fever Hospital, Liverpool Road, N. This useful institution was established in 1801 for the prevention and treatment of diphtheria, scarlet fever, typhoid, typhus, measles, and other fevers. The patients or their friends pay a fee amounting to about a fourth of their cost, the other three-fourths being borne by the charity.

Measles.—This is an acute contagious disease occurring for the most part in epidemics. As a rule a patient suffers from it only once, but in exceptional cases it has been known to occur several times. It not infrequently precedes or follows whooping-

cough. It generally commences with shivering, or perhaps in the case of children with convulsions. There is a feeling of illness, amounting almost to prostration, and the patient is only too glad to stay in bed. The skin is hot and dry, the pulse is quick, the lips are parched, the tongue is thickly coated with fur, the appetite is impaired, and there is great thirst. Vomiting sometimes occurs, and if repeated or persistent it indicates a severe attack. Usually from the very commencement there is running from the eyes and nose, and the eyelids are swollen and red at the margin. There is a little sore-throat, and there may be cough as well. The urine is scanty and high-coloured, and deposits abundantly on standing. The rash usually appears on the fourth day of the illness, but may come out on the second or third day. It is first noticed on the forehead close to the scalp, and gradually extends all over the body; the arms, legs, and trunk, in a typical case being covered. In two or three days the rash fades away, the fever abates, and the patient, if all goes well, is on a fair way to recovery. Sometimes convalescence is short, but if by any chance the patient should be suffering from constitutional debility it may be prolonged. The occurrence of severe bronchitis in the course of the disease adds to the severity of the attack. Sometimes measles may assume a malignant type, and the patient's life may be endangered. There may be a little peeling of the skin, but it is slight and much less than in scarlet fever.

There is, as a rule, not much difficulty in distinguishing measles from other diseases. In scarlet fever the rash appears on the second day, is more pronounced and more vivid in colour. In scarlet fever sore-throat is always a prominent symptom. In small-pox there is pain in the back and head, with persistent vomiting. The rash of small-pox is hard and shotty from the very first, and each spot is covered with a little watery head depressed in the middle. There are certain articles of diet, some kinds of fish especially, which occasionally bring out a rash not unlike that of measles, but as a rule there is little or no elevation of temperature.

Speaking generally, measles is a mild disease, which need give rise to no special anxiety. If, however, it follows some other illness, or if the child is in a bad state of health, it may assume a serious aspect. If there is a tendency to consumption, that is a grave complication, and especial care will have to be taken. Cases generally do better in the summer than in the winter, as there is not the same liability to bronchitis.

The treatment is simple, and depends on common-sense principles. The disease cannot be cured, and must run its course: all that can be done is to take steps to conduct it to a favourable termination. The

patient must be put to bed, and any excess of light should be excluded from the room, although there is no advantage in pulling down all the blinds. The room should be kept at a temperature of 64° Fahr.; and a thermometer should be hung on the wall, not too near the window, and not too near the door. Except in the height of summer, it is best to have a fire, as it ensures thorough ventilation. The room should be kept quiet, and visitors excluded. One or two people should be told off to undertake the nursing, and they should be experienced, or they will do more harm than good. The food should be light and nutritious, and should consist of milk and soda-water, good strong beef-tea, chicken broth, jelly, and other articles which are easily digestible, and are fancied by the patient. They should be given every two hours, and in small quantities at a time. Stimulants will not, as a rule, be required. If there is much thirst, ice to suck is grateful. Fruit need not be prohibited, but it is not nutritious and does no good. If there is much itching of the skin, sponging the body with tepid water and soap is the best remedy, care being taken not to expose the patient more than is absolutely necessary. If the throat is sore, a linseed-meal poultice may be applied to the neck, and steam may be inhaled from a steam diffuser or bronchitis-kettle. If there is much prostration, and the disease threatens to assume a typhoid condition, as it is called, stimulants in the form of brandy or champagne may have to be administered freely.

In many cases no medicine will be needed, but sometimes benefit is experienced from fractional doses of tincture of aconite and tincture of belladonna in combination; ten drops of B.P. tincture of aconite, and ten drops of tincture of belladonna, may be poured into a tumbler of cold water, and of this a teaspoonful should be given every hour for the first ten or twelve hours. After this the patient may suck a tabloid of chlorate of potash, or a tabloid of chlorate of potash and borax, frequently.

During the stage of convalescence tonics will have to be administered freely, and it is best to begin with quinine. A mixture should be made containing in each dose two grains of sulphate of quinine, a drop of dilute sulphuric acid, and a table-spoonful of water, and this should be given every four hours. After three or four days iron wine, or Burroughs' Beef and Iron Wine, may be substituted, a teaspoonful of the former, or a table-spoonful of the latter, being taken three times a day in a wineglass of water. The Kepler Extract of Malt is useful, and this may be followed in due course by cod-liver oil.

To establish the health, change of air will often be found necessary; and the patient, if possible, should be sent to the seaside for a fortnight or

three weeks. The opportunity should be taken to overhaul the drains, and to examine the sanitary condition of the house generally, especially if several members of the family have suffered from acute illnesses or chronic attacks of sore-throat.

Although measles is usually a mild disease, it may assume a virulent type when it affects a virgin community. Take, for example, the case of the Faroe Islands, where for sixty-five years prior to 1846 not a single case had been known to occur. It was then introduced by a sailor, and led to an epidemic which attacked more than 6,000 out of the 7,782 inhabitants, sparing only those who had previously suffered from the disease, and about 1,500 others who were sent away and kept out of reach of the contagion. A somewhat similar epidemic occurred amongst the Fiji Islanders not many years ago. Measles had never been known in those islands until their cession to England opened up communication between the islanders* and European races, and afforded opportunities for the introduction of the disease. Early in January, 1875, the King Cacoban returned with his sons and retinue from a visit to Sydney, where measles prevailed, and brought the infection into the island, one of his sons and a servant having contracted the disease. It was also introduced immediately afterwards by one or two other ships also coming from Australia.

German Measles.—This is a curious disease, sometimes known as epidemic roseola, or *rötheln*. It is contagious, and is often confounded with common measles. It occurs chiefly in summer, and affects children much more readily than adults. Its existence probably depends on some particular germ or poison, but it is less catching than either measles or scarlet fever. The patient usually has a little headache, and is noticed to be feverish, and then the rash comes out. It appears first on the sides of the nose and adjoining parts of the cheeks, and then spreads over the arms and legs. It attains its height on the second day, and then gradually fades away. It looks at first sight very much like measles, but rarely assumes the crescentic grouping which is characteristic of that disease. It is spoken of sometimes as a hybrid between measles and scarlet fever, but it has little in common with the last-named disease. There is no running from the eyes and nose, as there is in measles; and cough is not usually a prominent symptom. It is not followed by bronchitis or any other complication, and the whole affection usually subsides in a few days.

The complaint is always so mild that special treatment is unnecessary. The patient should be kept in bed, and the dietary should be of the lightest possible description. The bowels, if confined, may

be opened by the administration of a couple of grains of grey powder; but beyond this no treatment is necessary.

Whooping-Cough.—It is a curious circumstance that hooping-cough, or whooping-cough (for the word is spelt both ways), should not have been known, or at all events described, until the middle of the seventeenth century. Its characteristic features are so pronounced that it is difficult to understand how it could have escaped recognition.

It is highly contagious, and attacks children in large numbers. It is the most fatal of all diseases to children under one year of age, and is responsible for more than half the recorded deaths of children under the age of two. Very little is known about its actual nature: but it probably depends on the presence of some specific poison or contagion which is communicated through the medium of the atmosphere.

In a case of simple or uncomplicated whooping-cough the early symptoms are those of catarrh—that is to say, there is running from the eyes and nose, with more or less cough and wheezing at the chest. After a time the cough is noticed to be paroxysmal, each attack terminating with a long deep-drawn inspiration, which is called the whoop, and is the characteristic sign of the disease. The child usually expectorates a quantity of semi-transparent viscid mucus, and is often violently sick. The frequency with which these attacks occur varies in different cases, and there are often a dozen in a day, with as many more during the night. The child is naturally exhausted by the effort, but may be apparently fairly well in the intervals of the attacks. After a very violent paroxysm there is usually bleeding from the nose, and possibly from other organs. The disease, unfortunately, rarely remains uncomplicated, and bronchitis is apt to supervene. Fever sets in, the skin becomes hot and dry, the pulse is rapid, and there are signs of exhaustion. Convulsions are not uncommon, and these are especially likely to occur when the child is teething, or is suffering from derangement of the bowels. The lungs should be examined from time to time by the doctor, as the onset of these grave complications to which reference has been made is very insidious. Uncomplicated whooping-cough is not a very serious disease: but whooping-cough attended with bronchitis or collapse of the lung requires careful management.

In the treatment of whooping-cough many remedies have been suggested, a circumstance which serves to emphasise the fact that there is no specific for it. The patient should be put to bed, and the utmost care should be taken to prevent the spread of the disease, especially if there are other children in

the house. The temperature of the room should be kept night and day at 64° Fahr., and ventilation of the apartment should be secured by a fire and the employment of a bronchitis-kettle. If the bowels are confined, the administration of a dose of castor oil or a couple of grains of grey powder can do no harm. Bromide of potassium is a favourite remedy; and for a child a year old a couple of grains may be given in milk, or in a little sugar and water, three times a day. When bronchitis has set in, it is as well to apply linseed-meal poultices all over the chest and back. An occasional warm bath is useful, and serves to promote the action of the skin. This is as much as can be done with safety; and should these simple remedies fail to afford relief, the services of a doctor must be obtained without delay. Not infrequently the gums have to be lanced to allay reflex irritation. Great attention will have to be paid to the dietary, especially when vomiting is a prominent symptom, and milk, or milk and water, must be administered frequently. As the disease assumes a chronic form, other steps will have to be taken, and the drug called *drosera* will be found useful. Half a drachm of tincture of *drosera rotundifolia*, which may be obtained from any chemist, should be mixed with six or eight ounces of water, according to the age of the patient; and of this a teaspoonful should be given every hour. As soon as the child has so far recovered as to be able to be moved, a change of air is advisable. For London patients a visit to the heights of Hampstead, or possibly to the sea-coast, will be found beneficial or even curative. Recovery is always slow, and complete restoration to health may be delayed for many months. Whooping-cough may be a serious affection even when there is no complication. The health will have to be built up again little by little, and tonics must be freely employed. When there is much wasting, Beef and Iron Wine, Kepler Extract of Malt, and cod-liver oil will have to be administered freely. As the strength returns, most of the days should be spent in the open air, care being taken to avoid a fresh attack of cold. The disease is always more serious in the winter, from the greater liability to contract bronchitis and other chest affections.

Mumps.—Mumps is an acute febrile disease that often assumes an epidemic form, and is characterised by inflammation of the parotid glands. It is extremely infectious, and the contagion is probably communicated by the breath. It is met with most commonly in children, and usually begins with a feeling of chilliness, vomiting, and pain in the head, back, and limbs. There is always some elevation of temperature, but it is never very marked, the thermometer rarely recording anything higher than

101° Fahr. There is pain immediately beneath the ear and behind the jaw, usually spreading upwards over the face and downwards in the neck. The parts are swollen, and are distinctly tender to the touch. The swelling continues to increase steadily for from three to six days, then remains stationary for twenty-four hours, and finally subsides. Sometimes the affection is limited to one side, but more commonly both are affected. Sometimes the inflammation attacks the tonsils, and other parts may be involved as well. The duration of the disease varies from four to ten days, and it always terminates in complete recovery.

With regard to treatment, there is little to be said, for the disease runs its course, and no remedy will arrest it or modify its progress. A purgative may be given at the outset, and the food should be of the lightest possible description. The patient had better keep his room for some days, and it may even be advisable that he should remain in bed for a time, so as to obtain complete rest. If the pain should be severe, a linseed-meal poultice or a hot fomentation will afford speedy relief. Thirst is sometimes a distressing symptom; but home-made lemonade, or ice to suck, will quickly allay it.

During the stage of convalescence weakness is a prominent symptom, and when the disease attacks adults, as it does sometimes, it may be a month or more before the health is fully restored. Plenty of food and a fair allowance of stimulants will be required; whilst tonics, such as quinine, iron, phosphorus, and *nux vomica*, will be found useful. A change of air is always beneficial, and will naturally add to the patient's prospects of a speedy recovery. The complaint affords protection—that is to say, a patient who has had it once will not in all probability suffer from another attack.

Chicken-Pox.—Chicken-pox or varicella is a very mild febrile contagious disease, which rarely lasts more than a week, and always runs a favourable course. It is distinct both from small-pox and from cow-pox. An attack of chicken-pox gives no protection from small-pox, and vaccination does not guard against chicken-pox. Chicken-pox is almost entirely a disease of childhood. It is met with sometimes in children at the breast, and the proportion of cases increases up to about four years of age. After twelve it is rare; but mothers sometimes catch it from their children if they have nursed them very assiduously. It hardly ever occurs a second time.

The early symptoms of an attack of chicken-pox present nothing characteristic. The child is evidently not well, and there is a little elevation of temperature; but it is not easy to say positively what is the matter. In the course of twenty-four

hours, however, the characteristic rash comes out, and the nature of the case is clear enough. The spots at first contain no fluid, but they soon develop little watery heads. They increase in size for a day or two, until they attain the size of a split pea, when they burst or dry up, leaving little scabs.

There is very little difficulty in recognising chicken-pox when once the rash is out. The general symptoms are so mild as hardly to excite attention. The temperature as a rule is not above 101° Fahr., although in exceptional cases, and just for a few hours, it may run up to 103° , or even 104° . The great point is to make sure that it is not small-pox; but the absence of very pronounced symptoms, and the early appearance of the rash, will solve the difficulty. It often happens, however, that a positive opinion cannot be given for the first forty-eight hours.

The termination, as already stated, is always favourable, and it is believed that there is no authentic record of a case ending fatally.

The disease is so mild that practically no treatment is needed. The child should be put to bed, and will probably stay there for a couple of days. The food should be light and easily digestible, but no medicine is needed. The patient should not be allowed to pick the spots, or they may become irritated and leave scars. In the case of young children a pair of woollen gloves will afford all the necessary protection. During the stage of convalescence, small doses of iron and quinine will be found useful; for example, a child four years old should be given ten drops of iron wine or ten drops of quinine wine in a wine-glass of water three times a day. A change of air may be advisable, but in the majority of cases it is not absolutely necessary.

ELEMENTARY CARPENTRY.

IN our introductory chapter we considered in detail the forms and uses of tools, and proposed that in the next a job of some kind should be begun in real earnest. It is only by attacking a definite piece of work that we find out our weak points, and having found them, can hark back for a bit, and after ascertaining what will improve us, do better next time. Supposing a room of some size can be set apart for a workshop, let us then set to work to fit it up with a strong useful bench, some shelves, and a book-case in which we can arrange our little library of works, rather more appropriate to the practical than the ornamental part of the house. All these objects can fairly be said to come within the range of rough joinery, and will not require the exact workmanship only attained by long practice, such as cabinet-work in harder woods, involving high finish, necessarily demands.

To Make a Work-Bench.—We shall not get on without a bench fitted with the necessary screw-vice, &c., to hold firmly our planks and logs for planing and mortising. So let us try our 'prentice hands at making one; and we shall speedily find that the task introduces us at once to the most important operations of simple carpentry. In Fig. 18 of the preceding article was given a drawing of a very servicable bench; but the dimensions may be varied according to the taste or requirements of the amateur, or perhaps the space and funds he has at his disposal. Reference will show that this bench

consisted of a strong frame of two trestle-ends united by the strong board A in front, and a similar one at the back, not visible. These are firmly screwed on to the trestles, with the heads of the screws countersunk into the wood to bring them flush. The trestles should be each made of two posts, 4 in. square and 2 ft. 7 in. high, with rails 2 ft. long over all and 4 in. by $2\frac{1}{4}$ in. thick, mortised through the uprights with inch-thick tenons and firmly glued and pegged in. The upper rails should finish flush with the top of each leg, so as to form a bearing for the bench-top, and therefore these tenons will have to finish $1\frac{1}{2}$ in. from the top—that is to say, will be $2\frac{1}{2}$ in. only in depth, instead of the whole depth of the rail. Now putting these legs and rails together brings us at once to the very important operation of

Mortising.—This kind of joint is required in every possible diversity of size and form, and the reader's own ingenuity must be left to furnish him with particulars for variations to suit particular cases. Here we will deal with two pieces of 4×3 stuff, one of which is to be mortised into the other.

It is required to join the end of Fig. 2 into the middle of the narrow side of Fig. 1, a T-shaped piece of course being the result. Plane up true, and square a line, A B on Fig. 2, at four and a quarter inches from the end, all around the log. Now take the mortise-gauge (Fig. 17, page 362) and set its two points to the width of the mortise-chisel, which should in this case be about an inch, and then

adjust the pair of points to mark on the narrow sides of the log two parallel lines, each at an equal distance from its respective side. The gauge is easily set by tapping with a hammer to about the right place, and tested by pricking holes from one edge, and then reversing the action to the other edge, until the marks made from either side coincide; and when once set correctly, the screw should be tightened to prevent the points shifting. Mark the narrow sides of the log with these points from the square marks A and B to the end, and then across the end to join them, and remove the wood on either side as far as these marks, as shown by the dotted lines; the cut in the direction of the grain to be

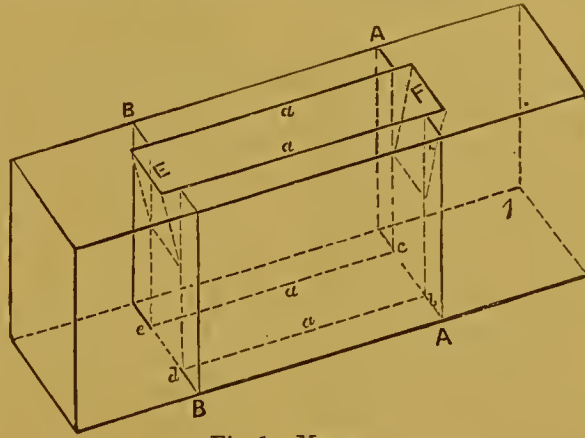


Fig. 1.—MORTISE.

taken with a rip-saw, and the transverse cut with the tenon-saw. It only remains to smooth off the roughness left by the saw, and this part of the joint, which is called the tenon, is finished.

In the proper place on Fig. 1 mark round the log, with the square, two lines, A A, B B, at a distance from each other equal to the width of Fig. 2, viz., four inches, and mark the narrow sides between these lines with the gauge in the same position as before; and as the logs are of equal thickness, the marks will fall in the middle in this case, as on Fig. 2. If we now look at our marks, we shall find we have two parallel lines, a a, an inch apart and four inches long. Turn the log completely over, and make the same gauge-marks on the bottom, and a corresponding oblong slit mark, b c d e, will be the result. Next lay the log on the stool or bench, and fix it in the most convenient manner (it is usual with carpenters to sit on the work to keep it steady); then take the chisel, and holding it with the edge at right angles to the length of the hole to be cut, some distance from one of the two square-lines, and the blade quite upright, hit it a smart blow with the mallet. Next with the chisel take a cut a little further outwards,

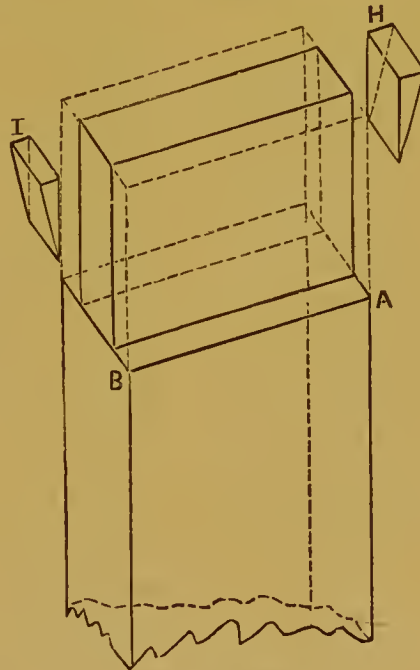


Fig. 2.—TENON.

towards the first cut, still keeping the flat side of the chisel towards the line; the effect of this will be that a chip of wood can be prized out. Now go on cutting down both sides of this first notch, an eighth or quarter of an inch at a time, always keeping the flat of the chisel towards the end you are approaching of

the hole or mortise, and being careful on that side of the notch to keep the cuts perpendicular. A few cuts in this way will bring you to one end of the mortise. When the line is reached, the tool is reversed from the place where the cutting commenced, till it comes to the other line. Once below the surface, the blows of the mallet must be smart and swift; and the chisel will be required to be used obliquely some-

times, in order to prize out the slips, which would otherwise clog the hole. About the depth of two cuts should reach the centre of the block, when the log must be turned over and worked from the other side until the two holes meet in one, and so form the mortise. Even though the wood to be mortised were very thin, it would be necessary to commence from both sides, or the edges of the work, supposing the chisel to come right through from either side to the other, would be splintered and uneven from being forcibly bulged out. The oblique ends, E F, of the hole are afterwards cut from the top of the log, to make room for the wedges, H I, in No. 2. (When the joint is glued in, these wedges are sometimes dispensed with.) Clean out the ragged parts inside the

mortise with a wide thin-bladed chisel, and drive in the tenon from the under side; it should project about a quarter of an inch through the top. Now drive in the wedges, H I, tightly, saw off all that projects above the surface, and plane smooth. If the directions have been attended to, and the work accurately done, the joints should fit exactly, without play or looseness, and the shoulders should come well up to the under side of the block. Should it be

required to remove the tenon from the mortise, before finally wedging-up, the mortised block, Fig. 1, must be tapped on the side from which the tenon enters it. The weight of the block and the inertia of the tenon will cause it to jerk out a little at each tap. Any attempt to force it out from the top would spread the fibres in the tenon, and rivet it more firmly in its place.

This joint will tax the powers of the novice, but will be found capital practice; and in all sorts of work we shall have constant need of it, as it is about the most important joint in carpentry. The correct proportion for the thickness of the tenons is rather more than one-third the total thickness of the mortised leg, but the drawing is purposely made with the tenon larger for distinctness. For the best work two tenons are used, as Fig. 3, ranged side by side on the end of the log, and fitting into two corresponding mortises, in which case the lines A B C D are sawn down with the half-rip saw, the space E being removed with the mortise-chisel.



Fig. 3.

Now to proceed with our bench. The legs and rails may be very easily planed up on a common kitchen table, or strong shelf, or top of a large box, with a screw as bench-step. But the top of the bench is a much more difficult task. The wood may be any good hard wood; yellow deal, for instance, though oak or beech are of course firmer and more durable. The front rail A (p. 362, Vol. II.), as also the back one to correspond, should be 9 in. by 2 in. or $1\frac{1}{2}$ in. at least, and screwed firmly on, with the top edge flush with the top of the trestles, so that these boards form a firm support for the top all along the front and back. Supposing our bench to be 2 ft. 3 in. wide and 6 ft. long, we shall want three boards that length for the top, and two for front and back rails. And now, as the three top boards must be planed up true, we are brought to the most general operation of all, viz., planing up boards.

Planing up a Board.—The action of the plane itself is simple enough. In planing forward the right hand gives the needful force, while the left, resting on the fore feet of the plane, keeps it straight and the iron into proper cut. In returning, there should be a tendency to lift the plane at the handle, so that it may almost trail back on the front edge only, and the edge of the iron may not be injured by coming into forcible contact on the board with grit and dust disturbed by the previous cut. This more especially applies when wood “with the weather in it” is to be treated. The amateur has here a strong natural tendency to guard against.

In a flat board one is apt to reduce the edges too much, while the middle remains high or rounding. The only check upon this is to apply the straight-edge across the board from time to time.

Planing the sides of the boards can be fairly done, like the legs, on a firm table or shelf. But with the edges it is very difficult to do really good work without the bench to hold it firmly. The very best thing the amateur can do, is to borrow the use of a bench if possible; failing that, he must prop up or wedge up his board upright on edge the best way he can. Even a skilled carpenter would find it difficult to plane a true and square edge in such circumstances; and we take our bench as a first job, only because very true work is not in this case absolutely required. Every one at first has a tendency to plane off the square one way or the other: his plane either leans down on the side towards himself, or over on the other side. The edge must be tested with the square, and so corrected; and every pains taken to notice the position of the plane, and get the habit and the *feel* of a square position—there is no other way of describing it; and no other way to get it, but with practice. Very many who dabble in carpentry never do learn to plane up an edge square with any certainty, but it is very important, for obvious reasons. When the plane is square in general, a tendency will be still found by many people for it to roll over on the off side as it gets more forward; and this, too, must be watched against. A good test against this, and for what one may call “continuity of squareness” all along, is to lay two parallel strips of wood across the edge, one near each end. Looking along the edge till they come in line, any skewness of the edge will be magnified and readily seen. The plane also tends, instead of a straight line, to take a kind of curve, concave upwards, from the natural sweep of the arm, which has to be prevented by a kind of continuous push to the very end of the stroke. The straight-edge and square must be constantly used to test these defects; and then care and practice will overcome them in the end. Let the amateur determine that, if he only does very simple things, they shall be *worked true*, and he will manage it in reasonable time, and be, so far as he goes, a workman and not a scamper.

The edges of the boards for the top of our bench have to be joined, and therefore must be “shot” with the trying-plane, set with so little of the blade projecting that a perfectly straight edge is the result. This exactness may be roughly tested by looking along from one end to the other with the eye on the level with the edge, when any considerable deviation from the line will be self-evident; but the final adjustment can only be arrived at by shooting the edges of both the boards to form

a joint, and testing them edge to edge, removing a shaving here and there till the joint is perfect. In our bench above described we shall have a middle board with two true edges, and two outer ones with one edge. Having arrived, by care and constant test, at the desired exactitude (see that each edge is also truly *square* with the face, or the result, when glued up, will be anything but a flat top), we must by means of our plough—a plane specially constructed for that purpose—run a groove $\frac{3}{8}$ in. wide and $\frac{1}{2}$ in. deep on each edge destined to form a joint. Be careful always to work with the gauge of the plane from the top of the board, or we shall have one plank higher than another, and find ourselves in for a lot of undesirable planing.

Glueing the Joints.—Now, when all is ready, make the glue hot and rather thin, place in the groove a strip (of hard wood preferred) fitting the space left by the pair of grooves, and apply the glue quickly, as hot as possible, to both edges, bringing them smartly together and rubbing them down hard with the least possible delay. A pair of slings should have been previously prepared, of a couple of pairs of pieces of waste wood, separated by blocks at each end where screwed together, and long enough to admit of the united boards being firmly wedged together while drying. It will be better—at first, at least—to finish one joint first, and then add the other board next day. The secret of a good and firm glue-joint is to rub or squeeze out as much of the glue as possible; and if properly done, the board should be so strong as to break anywhere rather than at the joint. We have described this operation at some length, because a glue-joint is a constant requirement, and we may, after a time, be skilful enough to dispense with the tongue and groove.

The top being thoroughly set and dry, which it should be in a day, must have a careful and final plane over to reduce the whole surface to a true smooth level. Then shoot the front edge true, saw square the end edges, and plane them smooth; an awkward operation, by the way, and one which, carelessly done, may spoil all the care we have taken. To plane straight across from one side to the other is to inevitably tear away the further edge, where the grain, taken sideways, is not strong enough to bear the cross-strain, and each stroke will make a fresh splinter. Therefore work from one side only partly across, then turn round and commence from the other edge, until the end is a true and square line, and also square with the face of the board. It is a good plan to push the plane along an end grain job obliquely, so that the blade attacks its work more by degrees; and the plane-iron should be set to take only a very thin cut. We are afraid that the ends

of a board can hardly be planed “square,” except at a bench; but in this case, as the ends join nothing, exact accuracy is not very material, and, if the ends are sawn square to a mark, it is sufficient if they are planed smoothly and fairly true as above described. High-class work is done rather differently. The board is first roughed out rather broader than necessary, and a little of the corner bevelled off with a sharp chisel. This corner enables the end to be planed straight across without splitting at the edge, and the board is then reduced a little from the edges to finish. The plane must be set fine, and the iron very sharp, for all work across the ends of boards.

We have now our bench-top ready to go into its final place, where it may be fastened by screwing down carefully all round the frame formed by the two trestles and front and back rails. Be very careful that the countersinks for the screws go just deep enough to bring the heads slightly, but not excessively, below the face, so that there shall be nothing to scratch work laid down to be planed. Our bench is now a strong table only, and the directions given will be easily adapted by any amateur wanting such a plain piece of furniture; the modification needed being that the frame requires to be kept well within the size of the top, and not flush with its edge. Even our bench is made with the top projecting some inches beyond the trestles at the ends.

If the bench is to stand alone, and not to be fastened to a wall or some firm support, it will need a couple of diagonal stays, one from each lower trestle-rail to the opposite top one, and a bolt and nut may be conveniently added where the stays cross. We can complete our bench by adding the bench-vise at the left end of the front. A strong piece of hard wood, beech preferred, 2 feet long by 8 or 9 inches wide and three inches thick, must be planed up true. Two strong bars of wood should be mortised to this at a suitable space apart, say 4 inches from each end and in the middle of the width. These bars are to serve as a support to enable the log to slide in and out from our front bench rail, and holes just large enough to allow these bars to slide easily must be made in the rail, at positions bringing the vice-block just flush with the top and end of the bench. In Fig. 18, p. 362, Vol. II., only one bar is shown, but two are better, unless the two screws there mentioned are employed, when no bar at all is required. If the work is nicely done, this block will slide in and out like a drawer easily, and still keep true and parallel. To complete the affair and convert it into an effective vise will need a bench-screw, which must be purchased from a tool-shop. It will be furnished with a wooden nut and a lever handle, and a square groove will be observed about an inch from the boss of the screw. This groove is to admit of a tongue being fitted

through a mortise in our vice-block, so that the said block is kept close up to the head when unscrewing as well as when making a grip. The hole for the screw goes through block and rail, and must be large enough to work easily, but not so large as to be loose. It ought to be made by a centre-bit, but, if we have no tool so large, can be done with a key-hole saw. The nut or screw box must be firmly fixed behind the front rail by screws. The bench-stop, such as shown in Fig. 19, p. 363, Vol. II., will complete our bench.

Perhaps the best form of bench of all is the German bench. It has another vice arranged at its right-hand end, acting in the direction of the bench's length, and, by means of movable stops dropping into holes at intervals, admits of a plank or log being cramped firmly down while being operated on. This form of apparatus will, however, be beyond the tyro's powers. When he is sufficiently advanced to attempt it, he will not require directions in detail, but will be able to plan it out for himself.

We cannot be said to be completely set up in vices (not bad ones, but vices of the right sort) without an iron one, in which articles to file, saws to sharpen, &c., can be duly held. Such a one is shown in Fig. 4. It is known as a Tail Vice, and needs a firm bench to itself, where the files, cold chisels, taps and stocks and dies, may be kept in convenient proximity. The loose jaws in Fig. 5 are of lead or copper, and fit over the teeth of the vice-jaws when a special grip is required without the article gripped being scratched by the marks in the jaw-teeth. The V-cut admits of a pipe or rod being grasped and firmly held vertically, such as a piece of gas-pipe to be screwed, &c.; and although we are not going in for metal work

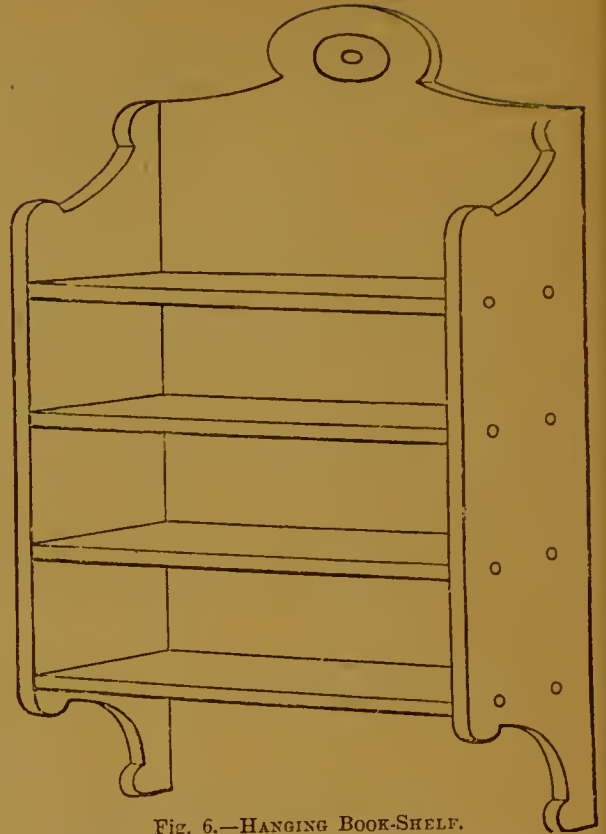


Fig. 6.—HANGING BOOK-SHELF.

yet one never knows what need may arise in the way of household repairs, and the means to do an odd job or two of gas-fitting are often invaluable. The pipes, barrels, &c., ready screwed, are obtainable everywhere, but without apparatus to hold them firmly we are not much the better for that.

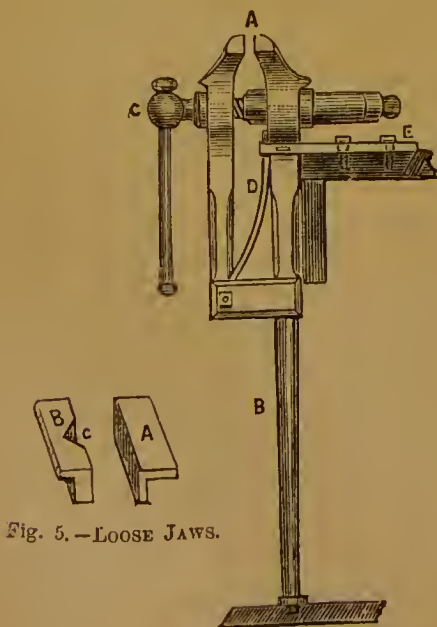


Fig. 5.—LOOSE JAWS.

Fig. 4.—TAIL VICE.

Kinds of Timber.—A few shelves are sure to be wanted, to store away various odds and ends, so we will now proceed to put some up. The ordinary width of wood is 9 in. for yellow deal, or 11 in. for pine boards, and these are to be had at all timber-yards, sawn into various thicknesses. The term *deal* is apt to be misleading, some folks fancying it as specifying a kind of wood, which it does in a rough kind of way; but technically a *deal* is a log of any of the pine tribe, 9 in. \times 3 in. and 12 ft. long. Divisions of these into four strips are known as *quartering*, because each is one-fourth of a deal, and measures $2\frac{1}{4} \times 3$. Divided the thin way, the results, if not less than 1 in. thick, are known as *boards*, less than that thickness as *leaves*. Smaller timber which will not cut *deals* is divided at the saw-pits into smaller stock sizes, known as *battens* (7×2), and *flooring* (about $1 \times 6\frac{1}{2}$); and as a rule the quality of this smaller wood is inferior, being of less mature growth. A prepared form of wood much

in request among amateurs is the "matched board," having a groove on one edge and an ornamental bead and tongue, fitting the before-mentioned groove in the next board, on the other. This kind and the floor-boarding is ready planed up, and still quite cheap. These varieties are sold by the *square* of 100 square feet, and the price varies from 7s. to 12s. 6d. per square, according to thickness and quality. Floor-boards may be bought with or without a grooved edge, for the insertion of a wooden or iron tongue, a very necessary thing where one has to floor a room next the ground, and where the air-bricks below bring a supply of air to keep basements dry. Such a room can never otherwise be warm, and ground-draughts and cold feet are sure to result. But probably we shall prefer to

when painted or enamelled they look well. Our shelf should fit nicely, but not so tightly as to need any force to set it in its place, and a couple of screws at each end and at the bracket (in the latter case screwed from underneath) will fix it firmly, while admitting of the shelf's removal for cleaning or painting, &c.

If instead of one shelf we want several in such a position, a good plan is to set up a board on either side with fillets nailed on at the proper distances apart; or, better still, the upright boards may be grooved about a $\frac{1}{4}$ in. deep and the width of the thickness of the shelves. This last plan, however, demands rather better workmanship, and for the nice finish of the grooves necessitates a kind of plane called



Fig. 7.—CENTRE-BIT ORNAMENTATION.

buy our boards without the groove, not being likely to undertake such an important job.

Shelves.—Up in one corner suppose we have a space 6 ft. wide—formed by the projection of the chimney-breast and the wall of the room. We will have a shelf up there at once; 9 in. width will serve, and be a convenient size. Cut up a suitable board, and plane it top and bottom and both edges; the front edge should have the sharp edges just tipped off with the smoothing-plane, for the double purpose of appearance and durability; but enough must not be taken off to make the edge look round. For the length we are now working on, a fillet at each end, and one bracket in the middle, will suffice. The fillets should be 3 in. wide and $8\frac{1}{2}$ in. long of $\frac{3}{4}$ in. stuff, with the lower edge and front end nicely bevelled off. These fillets must be firmly nailed to the wall, previously discovering where the mortar joints come, and nailing accordingly. The middle support will require a strip, say, 1 ft. long and 3 in. wide, bevelled off on both edges and bottom end. Nail this to the back wall firmly, and truly upright, and screw to it at the right height a cast-iron bracket—say, 7 in. one way by 9 in. downwards. These may be bought for a few pence at any ironmonger's, and

an "old woman's tooth." It can be done by carefully sawing with a tenon-saw and chiselling out after, but hardly so well.

A Book-shelf.—Now suppose we try our hand on a separate book-shelf, which may be good enough to hang in our little library. Before setting out the sizes, take stock of the books to be accommodated, and make the dimensions accordingly. Four shelves will be a good number, but each reader will readily plan out a set for his own needs. For width from front to back 9 in. is the best size, as that just takes in the size known as imperial 8vo. Thickness may be about 1 in., provided the shelves are not more than about 3 ft. Pine or yellow deal will do, unless oak or fancy wood is available. (Fig. 6.)

First plan out the ends of some suitable figure, for which our sketch offers only a suggestion for the reader's own elaboration. Plane true and square front and back edges, and rule carefully the positions of the various shelves. The bottom space should be the largest, and 9 in. is a convenient size, while each space above should decrease an inch or so. The sides should project further above the top shelf than at bottom, to form a protection so as to hold books on the top. The shelves may be either mortised into

the sides, or carefully squared and fastened in place by long screws (preferably brass) sunk flush into the upright sides. If brass screws are nicely placed at regular and corresponding positions, they will not look at all bad, but will form a species of finish which, as they are true to constructional purpose, should give no offence to even the fastidious. The work must be nicely cleaned off, and the screws sunk just flush with the surface of the wood, and no more; but be careful the screw-driver does not scratch and tear the wood around when driving right home.

Some amateurs prefer to sink their screws some way into the sides, and to fill the holes with little turned wooden buttons, or with strips glued from front to back—which are both good plans.

If any relief is desired to the plainness of the sides, a very simple ornament can readily be made with a large-sized centre-bit, boring holes at such distances that they intersect one another, and so form trefoil or quatrefoil forms. These patterns may be varied greatly by altering the proportions of size and distance to suit various tastes. In every case the boring must be proceeded with only a little way in each, then the next a turn, and so on; and when the centre-bit's point shows through the wood, turn it over and work equally, or more, carefully till the cuts meet. (Fig. 7.)

Screws.—In this place a word or two on the proper use of the screw will be appropriate, as driving a screw is often a troublesome operation for want of appreciating the principle of it. The case in point will serve as an example. All modern makes of wood screws are what is known as self-entering; that is to say, they hardly need any hole bored except to form a guide for the direction they are to take. The thread on the screw is so shaped that in ordinary soft wood it cuts its way along, and a big gimlet-hole is not only unnecessary, but a positive source of reduced holding-power. Yet it is essential to a true grip that the hole in the first board should be large enough for the plain part of the screw (the shank

nearest the head, on which no thread is) to turn *easily*, otherwise no amount of force will bring the joints firmly together. Below is a diagram (Fig. 8) of a screw-joint properly made, and one (Fig. 9) the reverse. In the latter case the fact of the screw having a bite in the wood nearest the head as well as the other part, effectually prevents any drawing together of the two pieces, which would be the case if the head portion of the screw were free to revolve in its hole.

Fig. 10 shows a good plan for fixing up such a set of shelves as this. A strip (A) cut exactly the length to fit across under the top shelf is to be firmly nailed to the wall—if a brick wall, by finding out the mortar

joints; or if lath-and-plaster partition, then at the joists. It only remains to lodge the top shelf so as to fit flat to the wall, but resting on this strip, and drive a couple of screws as shown at B (Fig. 10) to ensure a firm fixture. The weight of the books will keep the structure in place, while it is removable with the greatest readiness. No back is intended for this design, unless around the top, where it adds a finish. Our case will need to be French polished if of fancy wood, or stained, sized, and varnished if of pine, to imitate either oak, mahogany, or walnut, according to the furniture of the room for which it is designed. Directions for these operations will be given at length in a future article.

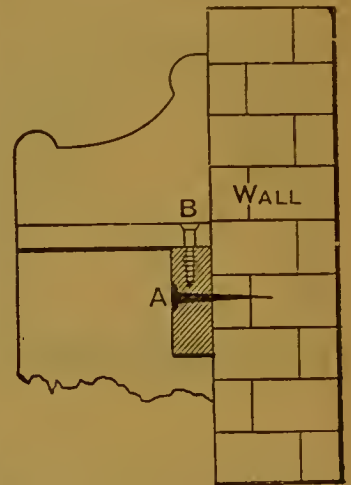


Fig. 10.

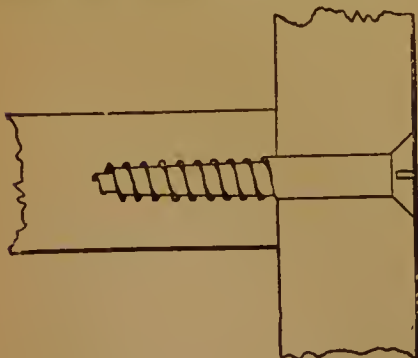


Fig. 8.

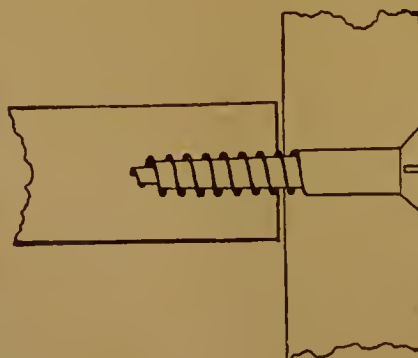


Fig. 9.

Mending a Floor.—Perhaps one of the simplest and most practical tasks likely to be demanded of any one who once pretends to a taste for carpentry is to mend some place in an old floor. It often happens that a bit of board has to be replaced to stop a rat-hole, or replace a piece decayed from dry or wet rot, and it does not always come by nature to know just how to set about it. If a lower floor, it is very

likely that an iron tongue will be found joining the two edges. If so, it will form a bothering obstacle to a saw, and we shall be very likely reduced to mallet and chisel. If only an ordinary floor-board has to be repaired, first mark where the nearest joists run (which can be generally found by the rows of nails, but if not must be sounded for with the hammer), and bore a hole near one edge with a good large gimlet or auger, then with a keyhole-saw cut the board across with a cut *oblique* to the floor-level (see Fig. 11), and so placed as to just clear the edge of the joist *J* at the bottom of the board. A new piece

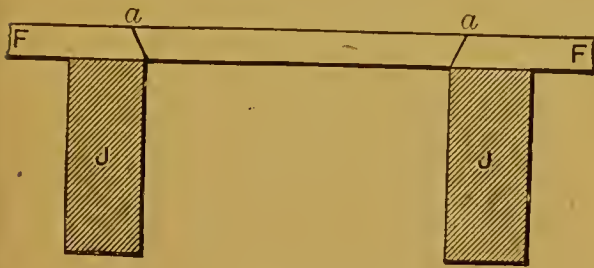


Fig. 11.

down if you leave this job to the workmen. It often happens that after a season has passed, with its inevitable changes of heat and cold, a gas service originally sound has developed leaks both disagreeable and perhaps even dangerous. To have it occur at all is bad enough, but if a search for the bad joint involves the additional trouble of breaking up the floors again, the householder is indeed to be pitied. A very few screws judiciously placed will hold a very long board down firmly, and a few minutes' interesting work will lay bare the whole system of pipes. It is perhaps not necessary to caution any

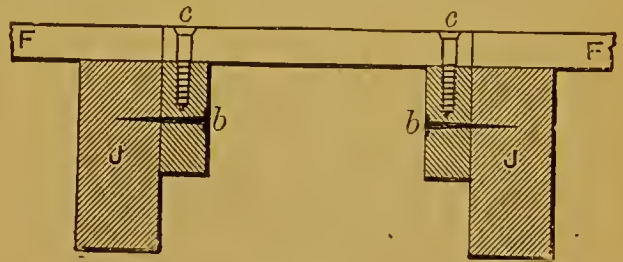


Fig. 12.

cut to fit the space so opened can be easily nailed down without difficulty; or, and especially if the opening is intended to be removable (as happens when a gas-pendant is fixed below, &c.), the saw-cut may be straight down (Fig. 12), and a new bearing obtained by nailing fillets *b b* on each joist, to which our movable trap can be screwed. The pieces *b b* should be rather longer than the width of the opening, when by holding them firmly up to bear on the bottom of the adjoining board on either side, a true bearing flush with the old level will be insured. Do not on any account *nail* down the boards over your gas-pipes, and insist on their being screwed

one that gas-leak finding must be carefully undertaken, with a due sense of possible danger; but so many houses have been blown up, even by workmen calling themselves "practical men," through the heedless use of a light to discover a leak, that such a warning may be pardoned. If your nose is not sensitive enough to discover a leak of any consequence, it is certain nature has not fitted you for that field of discovery, and you had better call in the gas-man, whose business it is to follow it. This last paragraph, however, pertains more to the subject of a later chapter; but while our floor was open, it was impossible to avoid the little digression.

ATHLETIC. SPORTS AND PURSUITS.

RECREATION pure and simple, and recreative exercises, taken periodically, and with as much regularity as business will permit, being universally regarded as a *sine quâ non* of the continuation of health, we ought to lay our plans for enjoying these with the same care that we cater for our daily food. The judicious choice of amusements is of considerable importance, and demands not a little thought. Fortunately we have no lack of either outdoor or indoor games and pastimes in this country, and over and above all these we have always engrossing "hobbies" to fall back upon.

In choosing our special recreations two things at

least must be consulted—our tastes and our strength. The former can hardly be altered, although many instances are known of people taking up some pastime with the greatest reluctance, and afterwards becoming passionately fond of it. Strength, on the other hand, may be greatly increased by playing well-selected games. But it would be obviously wrong for a person of either sex whose chest was weakly, and not well developed as far as bone and muscle were concerned, to adopt long rows, for example, as a recreation. It should be remembered that the human skeleton is completely ossified by the twenty-third year, and that after that age there can be but

little further increase, either in the diameter of round bones, such as those of the arms and legs (*humerus* and *femur*), or in the breadth of flat ones, such as the scapula and ribs. One may lump muscle on small bones, true enough, but it is questionable if this be healthful. Walking tours of great length should not be undertaken by weakly persons, especially across a hilly country. The courage and spirit of such people are often out of all proportion to the strength of their bone and flesh, and *severe* exercise, instead of doing good, is more likely to strain the whole animal economy to such an extent, that time and rest will be needed to restore it to its pristine form.

On the other hand, men (or women either) who are in every way well proportioned, of goodly stature, and possessed of plenty of bone and a fair allowance of muscle, are justified in choosing such outdoor recreations as require *vim a tergo*, and *vim* from limbs as well. It is not a pretty sight to behold a tall handsome man, for instance, dawdling over a game of croquet; but put bat, oar, or golf-club in the hands of such, and you see him at his best.

The haukering after muscularity is a craze at the present time, and we must not hesitate to point out that in many instances it may be a most pernicious one. We have known, for example, many cases of hypertrophy of the heart, that could be clearly traced to rowing while at the University. Recreative exercise must, therefore, never be overdone, although in moderation it is so exceedingly beneficial to both health and happiness. We cannot all be giants; and if some of even the puniest amongst us succeeds, by special training, in mustering up a huge biceps or calf, as soon as the strain is past, and the exercise can no longer be kept up, Nature speedily rids the weakly bones of the super-abundant flesh. Training for field sports or pastimes is oftentimes cruelly overdone, and the health may be irretrievably lost thereby. It is bad enough for the young, but ten times worse for those who are up in years, and set as to bone, muscle, and internal organs.

It is true that, in training, the internal vital organs always sympathise with the progress made as regards increase of external muscle. The heart will become somewhat bigger, stronger, tougher; and this, if not carried to excess, is advantageous to health, rather than otherwise. The increased flow of blood to the liver will stimulate that organ to healthier action; but stretching of gall-bladder, or ducts, by overflow, might lead to the formation of gall-stones. The kidneys, too, and spleen, all partake of the general stimulation; and, we repeat, all will go well if exercise be not indulged in to excess. This excess is an abuse of Nature, and she will in the end retaliate. Emulation in sports is very well to a

certain extent, but when it is exaggerated foolishly—as is done every day—for the mere purpose of beating previous records, it must be condemned by every right-thinking individual. A person with a weak heart should beware of pitting his strength against a superior in physique. Do we not hear, almost every day, of some one dropping dead on the seat of a railway-train he has run to catch. This running to catch trains is a form of “spurting” which is highly dangerous to any one out of form.

In choosing our recreative exercises we must not forget *variety*. If young or middle-aged, we should be able to play at least three sorts of games out of doors, and vary these with other pastimes to suit the seasons of the year. Nature teaches this plan to even the schoolboy; thus, marbles seem to go out with spring, and hoops come in with autumn.

We do well to dress for our different kinds of pastimes. We do not allude to fancy clothing, such as that worn at cricket, lawn tennis, boating, &c., but more to the material and its weight. Wool is indispensable, but it must not be too heavy or too thick. We must also guard against standing or lying about in draughts when heated; this results in a too-quick cooling of the body; the animal heat is carried rapidly away with the evaporation of perspiration from the clothes, and a chill may be the result, which shall tax all our recuperative powers to get safely over.

Now in this and subsequent articles it is not our intention to give any complete list of outdoor recreations, games, or sports, nor the rules that govern any. These last may all be found in handbooks. Moreover, every county in the kingdom has its pet sports, although many, such as lawn-tennis, cricket, golf, hockey, and football, are played from Land's End to John o'Groats. We will touch, however, on the salient points of those we mention, and endeavour, at the same time, to keep in view the value of each from a family, social, or health point of view. In this article we will select those pursuits which involve what may be fairly regarded as athletic exercise, and are therefore especially suitable for the young or vigorous middle-aged; whilst in a second we will consider those in which, though affording a fair amount of outdoor exercise, the element of social recreation predominates.

Volunteering.—We cannot speak of volunteering in this article without laying ourselves open to the charge of insinuating that our citizens-in-arms are merely playing at being soldiers. If they *are* playing, it is at a very noble game—namely, that of war; while they bear on their banners the grand old motto, “Defence, not defiance.” But looked upon as an outdoor exercise, there is much to be said in

favour of volunteering. When the movement was first taken up, about thirty years ago, there existed in some circles a good deal of prejudice against it, which found vent in scoffing and gibing against what were then called "our feather-bed soldiers." Although many young men doubtless joined the force as a mere fad or hobby, or even for the sake of wearing a uniform, in course of time the chaff got winnowed away from the wheat, and all that was solid and good remained. With the benefits that have accrued to the nation at large, or may yet in time of need accrue, we have little to do; but we must be allowed to say that to tens of thousands of individuals volunteering has been an incalculable benefit. There are many men now enjoying a contented and healthful middle age, who might have been in their graves long since had they not joined with spirit this national movement. Indeed, not a few who were volunteers when young men or lads, are still serving.

The exercise the volunteer undergoes is at ordinary times by no means severe, and the fact that it is undergone for the most part out of doors, gives it additional toning power for muscles, nerve, and heart. There is just that amount of pleasant stimulus about it, too, that renders it wholesome. The drill and the marching are beneficial for another reason—namely, that correct and invigorating attitudes must be maintained all the time; and posture has very much to do with successful training, to say nothing of health. We should not be contradicted by any of the medical faculty were we to say that the man who holds himself erect while standing or walking, and who sits upright as to neck and back even at desk-work, is likely to live longer than he who is at all times slovenly as to gait. The volunteer soon comes to recognise the benefits derivable from correct posture, and will hold himself in manly positions even while simply the civilian.

In order to obtain all the benefit possible from the exercise of volunteering, there are one or two things that should not be forgotten. First, hurrying off to drill should be sedulously avoided. Our volunteers are for the most part men who have daily duties to perform, which take up most of their time. Drill in the latter part of any given day should come therefore as a happy and healthful release; but if they run themselves so close, as regards time, that a hurried rush homewards, a hurried meal, and a race to the grounds are the results, much good cannot be expected from that day's or evening's drill. Secondly, it should not be forgotten that half an hour, or even fifteen minutes, of systematised dumb-bell or Indian club exercise, after a cold bath in the morning, and of course before breakfast, keeps the volunteer up to the mark in quite an unmistakable way. As good

perhaps as either dumb-bells or Indian clubs is that most excellent exercise taught with the gun and bayonet. Every attitude herein is studied, and every muscle of the body comes in for its due share of work.

It is the custom now for volunteers to go into camp for a week or two each year, and this should be looked upon as quite a happy time and a holiday. The worst of it is, that many men are out of form about the time they have to start, and thus the additional exercise they must undergo, becomes not only a labour to them, but a positive fatigue; and instead of being benefited and refreshed by their outing, they return home fagged and tired, and even lighter in body. But such a *contretemps* as this can easily be, and ought to be, avoided. For at least three weeks before his camp holiday the volunteer should go into a species of training, which shall bring his health and the tone of his body up to par. It needs common sense rather than science to dictate what he should do. Let him live by the rules of hygiene. Avoid excess of every kind, especially late hours, stimulants, and too much freedom with tobacco. Let him have a cold bath every morning—tepid if his heart be at all weak—and after that, bayonet exercise in the open air. He should also spare himself time for a good six miles' walk every day, and keep out of stuffy rooms—especially billiard-rooms—at night. He should live well, and his meals ought to consist more of meat than flour. Cheese has a wonderful effect in hardening muscle, and milk is certainly better than beer. A volunteer who takes this advice will really enjoy his holiday, and we believe a man is never more thoroughly a man than in camp.

Shooting is beneficial, not so much from the exercise it entails, as from the pleasant engrossment of all the mental faculties that it insures.

And we need hardly add that from a moral point of view volunteering is greatly to be recommended. Apart from the habits of discipline which it inculcates, much social good is done from simply the meeting of men with men. Standards of excellence, mental and physical, can be compared; ideas exchanged and enlarged; and a species of *camaraderie* begotten, which certainly tends towards the coming time talked of by Burns—

"When man to man the world o'er
Shall brithers be, and a' that."

Who should join our volunteer forces? Any who have no inherent disease about them, who are young, and who can spare the time to take volunteering up in an earnest and practical way. The extra strong and lithe may become artillerymen, while those who live in the country and assist in

managing their own or their father's acres, may do well by becoming yeomen.

Cricket.—For this game is claimed, with some degree of feasibility, the honour of being called the national game of England, just as golf may be styled the summer game of Scotland and curling the winter pastime. Like the domestic cat, cricket is almost too well known to need description; for are not its laws and rules laid down in a hundred books at least? No Englishman need be told that the M.C.C. (Marylebone Cricket Club) dominates all others, and is to them a guide, a referee, and legislative assembly. This is true, at all events, with regard to all the most important particulars of the game.

Cricket as a game has many merits. One is its thoroughly unconventional and cosmopolitan character. However poor a young man may be, if he is a really good player, and of fair manners, he is as much valued in the eleven as if his father were a millionaire. This is both very pleasant and very good for all parties. Then there is a sufficient amount of keen excitement about the game to make it very pleasurable and absorbing, and thus "recreative" in the true sense. Then, finally, while the exercise is at first of a moderate kind, or ought to be if the game is learnt and practised in a proper manner, as skill is obtained at batting or bowling it comes to be enough for anybody. The mere running exercise during a long and lively innings is very severe, and so is that of a good bowler, wicket-keeper, or long-stop. Thus the game begins with gentle or moderate exercise, and ends as a truly athletic exercise.

Cricket may be said to be essentially a man's game. It is good for men to be together by themselves at times. Yet in big matches ladies come to look on, and applaud the prowess of the champions of the bat. There is consequently something of the wholesome romance of the old tilt-and-tournaments about such a field day. When we remember what an excellent trial of skill, of temper, of pluck, and of patience, cricket really is, we cannot wonder at the memorable words of the great duke anent the Battle of Waterloo. But we advocate cricket as a healthful recreative exercise for private families; and, just as in tennis, the father may join in the glorious game along with his sons and daughters, and be all the better for the sport. Of late, indeed, there has been rather a movement in the direction of girls playing cricket, and—apart from public matches, which fortunately have always been received with disfavour—there is no reason at all why they should not. The swing of the bat, and the free play of the shoulders, and use of the hands, are just adapted to teach young women

that use of their hands in which women are, as a rule, lamentably deficient. Not one woman in twenty can use a hammer, or even throw a stone, in the proper way, and as a man would; and a little cricket-playing in girlhood would teach her both. It hardly need be said that in such playing, or when father and brothers and sisters join in a family game, the stronger members will of course moderate their force to that of the weaker members. The game itself is self-adaptive to muscles of every kind; and with bats and ball, proportioned to their strength, children and maidens may play as evenly—and show as "fine play," too, if practice give the skill—as a team of county champions.

No one is a born cricketer. Physique and "make" have doubtless a deal to do with either batting, bowling, or fielding; but long and almost constant practice is necessary if we would attain to anything like perfection; and the younger one is when commencing to learn, the better. Especially perhaps is this true as regards batting. But although, as in the case of other games, practice alone can make perfect in the cricket-field, there are a large number of minor matters to be attended to that greatly conduce to the comfort and easiness of the learner. Nor should he forget that bad habits of playing are most difficult to get rid of, but uncommonly easy to grow into if not guarded against. Bad habits of position are likewise easily learned. One should study to avoid these by watching the attitudes of good players.

We are not going to teach cricket here: it would need a book; and others have written better books about it than we can. Besides this, cricket must be learnt in the field itself. But we may give perhaps one or two hints which may keep a young lad from some mistakes and bad habits, and help him to keep the right road in his practice and efforts.

Beginning with batting. The boy should have a bat in proportion, and as he grows in knowledge will learn how to choose one for himself, of full size, that suits his hands, arms, and shoulders. In its use he should take lessons. As with lawn tennis, so with cricket; we can learn quite a deal by watching the play of champions, and endeavouring to imitate the same. Defence must first be learned. This is a truth which must never be forgotten. Keep the wicket up, and one runs some chance of doing something. Make an attack before we have learned to do the former, and ten to one we shall come to grief.

Now every one cannot be a brilliant hitter, but *every lad can learn to make a stubborn defence*; and even that will take the heart out of a bowler, and, with a good hitting partner at the other end, give him breath and time to make runs, if you cannot do it. A sure defence is always valued in a team.

And there is one simple essential to it. Get a friend to stand at a wicket while you stand at the bowling-crease, and to hold his bat upright on the block over the middle stump. While he keeps his bat there, you will find it very hard to get a ball "round it" on to the wicket. The bat seems to block the ball out; and though you *can* get a ball round by a good deal of "twist," you will see at once what is meant. Now, for a sure defence, you have got to learn, as you raise your bat to strike and bring it down again, to *keep it in that straight line* which so guards the wicket. Study this, and do it from the first. To hold the bat in a diagonal line will seem to be a great deal easier; and there are people who never play any other way, and by quickness and sureness of eye often manage a fair score occasionally. But they are never "safe," and a "safe" bat is what a captain likes. Resist that tendency; curl round that obstinate left hand till it keeps the bat straight as you swing, and by degrees it will become habitual. Then a very little change of the position of the swing to right or left, according to how the ball is coming, will guard your wicket. You will soon learn to hit harder and harder, and will have acquired the essence of a "sure defence."

It has well been said that no cricketer ever became famous who did not play with an upright bat. Regarding this, so great an authority as Dr. Grace says: "The first object of a batsman is to protect his wicket; and the straighter he holds his bat, the greater the protection he affords it."

The samo gentleman never fails to impress upon younger folks the necessity of standing as near as possible in the line of the wickets. The toes should be just clear of a line drawn from wicket to wicket. One is thus in less danger of being bowled "off one's legs" than he would be if standing farther away. He makes many equally sensible and pointed remarks. For example:—Do not let the ball hit the bat, but make the bat hit the ball. If you hit, hit hard; half-and-half style does not pay. Hit at the ball, not at the place where you think the ball ought to be. Practise backward and forward play, but play forward whenever you can. Beware of the bowler driving you on to your wicket. Do not be in a hurry to get runs. Study the bowler's method of attack. Practise often—not long at a time, but practise intelligently. Watch good batsmen, and take your style from them.

Only one more word to the learner on batting. Learn to keep cool, and never be in a hurry to get runs, unless the match hangs on minutes. Stick to defence, and never hit wildly at a ball the least dangerous, until you begin to feel that you understand the bowler, and have got your eye in. Never

forget to play evenly and straight, and, except when you get a rare chance, to hit with your bat well *over* the ball, so as to keep it down. Recollect that half a team is "caught out," and avoid *giving* catches. Swiping to leg, says Dr. Grace, is so common among young players, that unless it is checked they are scarcely able to do anything else, and never attain to even respectable mediocrity in the game. A simple slogger could never be called a good player.

A young bowler should not at first bowl too fast. He should practise intelligently every day, and for a time at eighteen yards. A short or medium run, and a straight run, and always present a full face to the opposite wicket. Not till he has learnt to bowl straight should he attempt any twist. Accuracy, not speed, is the *essential* part of bowling. But avoid bowling *too* slowly; and when bowling slowly, never bowl two balls alike; and try to find out the batsman's weak point and his favourite stroke.

Generally: the bowler should recollect what his business is. It is to send down balls which are difficult to play, and will *hit the wicket* if not played; or else to tempt the batsman into giving easy catches or chances for being stumped. The most twistical ball is no use, if it would not have hit the wicket after all. Very swift straight balls are not particularly hard to play, unless bowled with more skill than they generally are by amateurs. Therefore learn to bowl "on the spot" before attempting anything else; and then learn to *pitch the ball where you want to* between the two wickets. You will always find, with an average player, that if you begin easy with him, and gradually pitch higher and higher up, you reach a point at last where he begins to be uneasy. Then if you can "cultivate that point," with puzzling variations, you will be to him a dangerous bowler, whether you are swift or not. It should never be forgotten that some people—and these of the most vigorous type, too—are not physically adapted for swift bowling, and cannot indulge in it without injurious strain; whereas it comes naturally to others. Each one, therefore, should study precision and "head-work" on his own natural form.

"Fielding, like batting and bowling, cannot be acquired without assiduous practice," says Dr. Grace. A fielder must be active, strong, and plucky. He should never talk till the wicket is down. He must keep an eye on the batsman. He must constantly practise catching with either hand. He must hasten to meet a coming ball. He should throw the ball to the wicket-keeper, and throw low and straight to save time. Ball-catching in a field can be practised at any time, and will be a valuable aid towards quickness of eye and hand in fielding.

No one should attempt to play at a match, even in

a country village, who cannot enter into the game heart and soul, and at the same time has not made himself acquainted with what we may call the science of cricket. Although we cannot all be Graces, given youth on one's side, an active supple frame, limbs that wholesome exercise in the open air has well developed, and lungs that have been expanded by dumb-bell and Indian club drill, and it is truly wonderful what a fine cricketer may be turned out.

The game of cricket is not without its dangers, and many a one has received injuries which have partially disabled them for life. To the "true-born Englishman" this spice of danger even enhances the pleasure of the game, but it should be reduced to a minimum nevertheless, so that gloves should be worn, whether one is a wicket-keeper or a batsman. Science has made these as perfect as possible, and at matches, at all events, no one should hesitate to wear them. The feet and legs have each their respective coverings, and especially should the legs be guarded. A knock on the shin-bone may lead to results that time itself can hardly assuage.

Remember, says the great athlete already quoted, that the game is not the mere triviality it is sometimes taken to be, but is worth thinking about, worth doing well; and that in it, as in everything else, intelligent practice and perseverance are the secrets of success.

Football.—If cricket be a game that even girls can play at, the same can hardly be said for football. This is a pastime in which ladies can take no special part further than the encouragement their presence as onlookers gives to the players. Yet is it eminently a national game, and—especially when played under Association Rules—one that should be encouraged in every college or school for young men and boys, and in every village throughout the kingdom.

But even now that rough-and-tumble rules, once so much the fashion—the kicking, the mauling, the tripping—are no longer countenanced, football is still a game which not only requires strength and manliness, but which begets healthy vigour and honest pluck. Boys should therefore be encouraged to play it, and their elders may join, too, if not too old and stiff. It should be remembered, moreover, that age and stiffness, and the tendency to *embonpoint* which is a marked characteristic of John Bull after he has scored the fifties, can be kept for many a year at bay by keeping up the games which were favourites with us at school.

For obvious reasons, young lads should not be encouraged to play with clubs whose members too greatly surpass them in age, weight, and strength. There are also certain clubs in some localities known

for their brutal ferocity. Such abuse a noble game, and should be carefully avoided by all decent people.

The dress usually worn for football is the well-known Jersey, with cap and stockings to match. The jersey need not be tight if scrimmages are to form no part of the game. The boots should be of medium thickness, certainly not clumsy. Nothing is more trying to the feet than very heavy boots for exercising in, unless, indeed, it be the use of goeshes for every-day wear.

From a manual called "Football," by Dr. Irvine, Mr. C. W. Alcock, and others, and which we can highly recommend, we quote—in an abridged form—the following hints concerning the main points of the game, which beginners will find useful. Dr. Irvine—the Scottish champion—is writing about the Rugby game:—

The ground must be level and pretty dry, the breadth a shade over half the length. Perous and sandy soil best, and under old pasture. Touch-line best marked by a narrow sod dug up and replaced in the furrow grass-side down. No flags on the goals. Barricades to be well back from the touch-lines, and strong; no one allowed inside, except a very few officials. A thorn hedge, that might prick the ball, anywhere near, very objectionable. Lots of room—unlimited—behind the goal.

Balls.—The best that can be got, and not too sharp at the ends. Not too big. Well blown up—preferably by means of a pump—well laced, and the ends of the lace well out of the way.

Have a new ball for a match; keep the old for practice. Do not dress for shew, but for work.

School-boys to have regular field-days, and play on them wet or dry. Two a week are enough. Play in football dress. Keep in condition. Avoid the pastry-cook's; do not touch tobacco or spirits. Be boys, and do not ape men. Get to know, and have confidence in, each other. Masters should practise with their boys.

In playing for a match, get a good captain and obey him; avoid squabbling; the decision of the umpire should be final. Belong to a good club, and play for it regularly. Keep your temper in a match, but do not let regard for friends in the crowd override your attention to what you are about.

Play gently—that is, regard football as a game of skill, not of strength merely. Play by the laws of the game; and play not for yourself individually, but for your side. Do not display your energy in shouting or exhortation.

Kicking.—As to this, the only way to excel is to practise.

Running.—The player should run to gain ground, not to show off. Run as straight therefore as possible, and always in front of your opponents' goal,

not your own. Resist the temptation to lie on the ball till your forwards come up. If you cannot get your kick, it is better, rather than be tackled, to let down the ball and charge ahead with it at your toe.

In *tackling*, it is best to get the ball and leave the man free. Go at a man's waist rather than neck, or you may be left vacant.

Passing.—The most important part of the game. The side that is best at the passing game is the side that will win. Don't wait to be tackled ere you pass. Better pass while your pace and that of the man you pass to are unchecked. As a rule, never throw unless you see clearly whom you throw to. Be chary of "passing" near your own goal. Never throw to a comrade unless you see he is in a better position than you are to benefit your side by getting the ball. Always throw then.

Dribbling.—Its chief advantage is that you can't thus be tackled. As a rule, dribble whenever you have the ball free before you, and you do not see a very clear chance to pick it up and get away with it, and whenever you are not close to your opponents' goal.

Mauling, as a rule, is a nuisance. *Tight* scrummaging, while it must occur (and, in moderation, is a capital part of the game), should always be kept down as much as possible, for in excess it utterly spoils it. In loose scrummaging, keep on the ball; do not pick it up. Keep your head and your temper. Go through as quickly as possible, and dribble the ball on.

Touching may be used or abused. A broad rule is this:—Keep the ball out of touch when making a raid into your opponents' country; charge the ball into touch when your opponents are making a raid into yours.

When should one touch-down behind one's own goal-line? The answer is: When it is necessary to prevent one's opponents doing it. Run it out and kick into touch whenever you can. A strong wind against you should almost justify touching-down as necessary. Running back from the field of play when pressed, and touching-down behind your own goal-line, looks bad, is hated by spectators, and scorned by enemies; but there are times when it *may* and *should* be done.

La Crosse.—This game, said to be invented by the North American Indians, is the Canadian national pastime. It has not as yet made very much way in this country, but is gradually doing so. It is a very social and sociable game, and, figuratively speaking, ought to be played "shoulder to shoulder." One needs to be hardy, active, and supple to play it well; and, therefore, the very exercise which it entails breeds these good qualities, to say nothing of

the training it gives to the mind. One other advantage attached to La Crosse is this: it can be played in winter as well as during the summer months. Thus, it may well be engaged in when snow is on the ground in England, and in Scotland when the frost is not hard enough to permit of playing the national game of curling.

In its crude state, La Crosse was undoubtedly taught by the Indians, but the Canadians have made the game what it is at present. The number of clubs in this country is just now about one hundred, but we believe they are on the increase, and much greater interest is now taken in the game than was the case even after Captain Johnson brought over his team of Indians in 1867. More success in introducing La Crosse to this country followed the two teams who paid us a visit in 1876, under the superintendence of Dr. Beers, captain of the Canadian players; a real Indian chief being in command of the Indian team. These had the honour of playing before Her Majesty the Queen at Windsor, and the Prince of Wales at Hurlingham. After this a club was formed by the Thames Hare and Hounds, under the direction of Dr. T. Archer, who knew the game well in Canada. These played on Wimbledon Common; and other clubs soon after sprang into existence.

Talking of the old Indian game, the sportsman Lemman makes the following graphic remarks:—

"The Olympic beauty of the game is beyond all praise. It calls into exercise every muscle of the human frame, and brings into bold relief the supple and athletic forms of the best-built people in the world. The only ornaments worn are paint, covering the body, which, with the exception of a single garment, is naked. At one time a figure will meet your attention similar to the Apollo Belvedere, and at another you will actually be startled by the surprising elegance of a Mercury. The sole music that accompanies the game is a chorus of wild clear laughter. The only drawback connected with it is the danger of getting your head broken, or the breath knocked out of your body, which are calamities that frequently happen." But in the more civilised and refined game broken heads are, of course, not in the programme.

The rules of the game are by no means difficult to learn, and may be had from any club. There are many novelties connected with La Crosse, and these are essential to good playing. It would be advisable for any one who meditates getting up a club in his town or village, first to see some good players at work, and secondly to be himself well taught; he can then teach others, and inspire them with some of his own enthusiasm.

The game is played on a fairly level field, not less

than 200 yards by 80 yards; but the larger, the better. Trees and shrubs should be cleared; but it need not be rolled even, like a cricket-ground, which is an advantage. On the ground are two goals, of posts six feet high and six feet apart, with flags. The

goals may be any distance apart—not less than 125 yards. To score, the ball must be thrown or taken between the opponents' goal *below* the flags. The Crosse, from which the game takes its name, is shown in Fig. 1. No metal, not even a rivet, may be used about it, and its greatest width must not exceed 12 inches. The length is optional, for personal convenience—usually four to five feet. The catgut strings must not hang baggy, neither be tense; but be tight enough to lie flat when no ball rests on them, yet give a little to its weight. The outer edge of the wood is shaved down thin, so that the Crosse may be thrust under the ball to take it from the ground, when it is used to run with the ball in the manner shown in Fig. 2. The use of the Crosse is, in fact, to take up and carry the ball towards the opponents' goal; or to throw it to another player when this is no longer possible; or to catch it from



Fig. 1.
THE CROSSE.

another who throws it in the same way. One great advantage of the game is that these operations can be practised by themselves in any field, and form interesting exercise, before the player is quite up to the game itself. Indeed, such preliminary practice is desirable before playing in a team, for it is a matter of some delicacy even to carry the ball on



Fig. 2.—RUNNING.

the Crosse at full speed, much less to throw or catch it with precision.

The game is played with twelve on each side for a full team, arranged as in Fig. 3, every fielder being faced by an opponent. The figure distinguishes the

men on the two sides by squares or circles, and shows how the field would probably be arranged when the wind blows pretty strongly from the bottom goal.

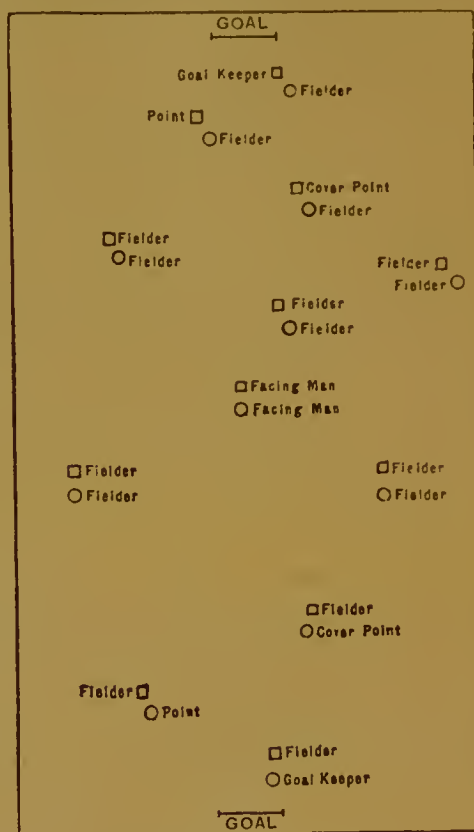


Fig. 3.—THE FIELD.

With no wind the men would be arranged symmetrically. The colours of the two sides should be very distinctive, to avoid mistakes, as the players keep their individual places as far as possible, except when in actual play, and mistakes would constantly occur unless the side was known at a glance.

A great merit of the game is that no wilful personal violence forms any part of it, or is allowed. A player may not be held, or tripped up, or knocked down, the proper thing being to strike his Crosse with your Crosse, and so dislodge the ball. The ball (which is an india-rubber sponge between eight and nine inches in circumference) may not indeed be touched by the hand, except that the goal-keeper alone may use his hand, or any other part of his person, to hit it back or defend his goal. It is, therefore, a game of sheer hard exercise and skill, possessing, also, the merit that the ball, and those in actual play at the moment, are always in full view. Hence it has the great merit of being a good and exciting game for the spectators as well as the players. It is a capital game to expand the lungs, giving running

exercise in its best form in spells not too long at a time, and free from much of the injurious excitement of an actual race prolonged to exhaustion.

With the rules against rough play made a little more stringent still, so as to prevent falling at all as far as possible, the game of La Crosse is perfectly

In this a diamond-shaped piece of ground is marked out, having sides of 90 feet each, bases being placed at each corner.

The batsman must stand on a piece of ground six feet by three feet, marked out for him, adjoining the home base; and the pitcher must stand on

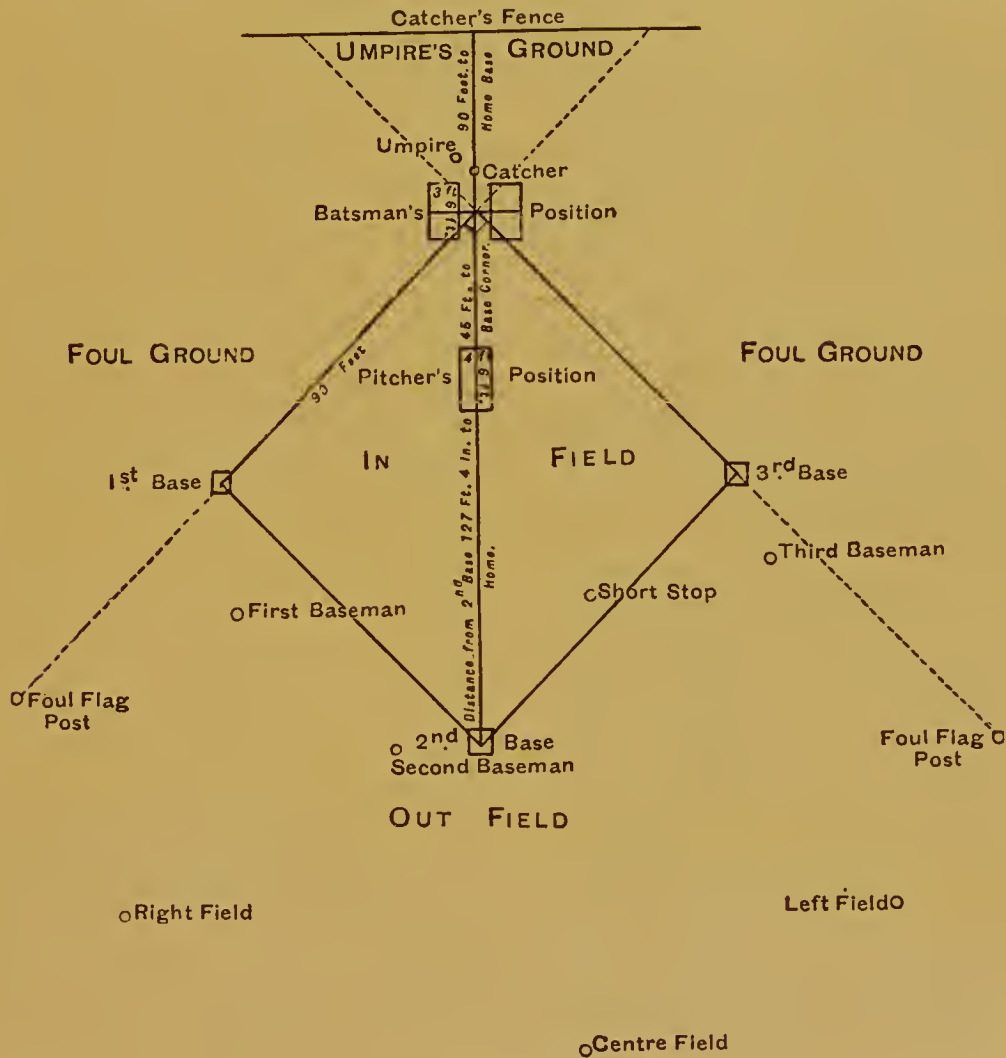


Fig. 4.—BASE-BALL.

suitable for girls—of course, given appropriate and becoming dress.

Base-Ball.—This is the American national game, and is in reality a modification and improvement upon our good old boys' game of rounders, although in many points it is essentially different; and, being as yet not very generally known in England, a little explanation of the game may be advisable, as in the case of La Crosse. It may be briefly described as follows:—The level field in which it is played must be about 500 feet in length and breadth.

another piece of ground of the same size, 45 feet in front. Behind the striker stands a catcher. From pitcher's to catcher's position the ground, about eight feet wide, is of hard dry soil, its edge on a level with the turf; and the paths from one base to another are also hard ground, and about three feet in width. All these positions, and the general position of the field, are shown in Fig. 4. When it is said that the general idea of the game is for the batsman to hit the ball so far out of reach of the fielders that he can run all round the bases home again; or, if not, to stop at the nearest base, and go

on further when the next batsman gives him a chance—the general resemblance to rounders is apparent enough. The ball is from 9 inches to 9½ inches in circumference; and the bat may be either round or four-square, not exceeding 42 inches long, and 2½ inches wide at the broadest part. This makes a heavy bat, and balls come accordingly very “hot.”

In detail, however, the game is elaborate. The batsman may call for balls high, low, or “fair” (which means between the two), and the pitcher must deliver them accordingly, and underhanded; otherwise his object is to deceive and puzzle the batsman all he can. But deliveries against the rules, or “baulks,” are counted fouls, and so reckoned that, after eight balls in all, the batsman takes one base, and all others standing at bases do the same. On the other hand, the batsman only has three “strikes” at fair balls, and then must run for his first base at all risks; or, when the batsman has struck the ball, he must run, and is then called a base-runner. He is “out”—(1) if he be caught out; (2) if the ball be got possession of and held by any fielder while said fielder touches the first base with any part of his person *before* the batsman can get to touch the first base, or if the fielder, ball in hand, can touch him with it before he is able to touch the base (it will be usually the baseman who does this: it is what he is posted there for); (3) or if this be done at first base after three strikes as aforesaid; (4) or if, after three “strikes” have been called, the ball is caught (the catcher’s duty). When the batsman runs for first base, the baseman at first base *must* leave it for him and run for second, the man at second for third, &c.; but if, say, the second base were empty, the man at third is not obliged to run for home, because there is a base for first base to run to. Any base-runner may be put out by any fielder, as in the case of the batsman at first base. Under some circumstances runners must return to their former base; and, on the other hand, at every “balk” by the pitcher every man gains a base. Each runner has a right to keep his present base (unless put out) until he has legally touched the next; and if he goes back, a man who has reached it must also return, the man safe at a base having the first right to it, so long as he is not put out in play. There are many other detailed rules we cannot quote, our only object being to give some idea of the game; and we only need add that one side remains in till three of its members are out, and that till then every man who gets round the bases and “home” counts a run. Nine innings are thus played, most runs winning the match.

Simple though this game be, it possesses great attraction, and is notably a healthful one, and eminently recreative. To play well, one requires pluck and nerve, agility, suppleness, strength, and a quick

eye. It is not to be wondered at, therefore, that crack teams are composed of little hardy men with no more fat to carry than a Scotch golfer.

Hare-and-Hounds.—This grand old school game—probably originated at Rugby—has during late years come more and more into favour among the young men of our great cities, for many reasons: it requires no apparatus beyond a running costume; the number who can engage in it has no limit; while hospitality to other clubs involves no exclusion of home members, as in making up a cricket eleven.

The general idea of a “paper-chase” is well known. Two “hares” set out with a given start, varying from fifteen minutes to thirty minutes, according to the country and length of run. These carry bags full of paper torn into small pieces, which they must leave as scent, the rule being that no space beyond so many feet must be left unscented; but, subject to this, the hares use all possible stratagems to baffle and puzzle, and so delay their pursuers, who start after the interval to run them down. To save their breath—as carrying and scattering paper is an extra tax upon the hares—a common plan is for them to “survey” a projected course beforehand, and to lay it out in sweeps or curves; so that, while one runs the course at full speed and lays the scent, the other cuts straight across to a certain point. He thus has a shorter and easier run, and takes up the scent-business fresh; while his companion, in turn, takes the short cut for the next bit. Difficulties and obstacles are sought rather than avoided by clubs of this old-fashioned sort, hedges and even wide brooks being crossed as a matter of course. There are even a few clubs up and down the country which always run by night, or, at least, after dark; and it need not be said that runs of this kind are peculiarly exciting.

This kind of hare-and-hounds is attended by some difficulties. Strictly speaking, it is as much an invasion of private rights to run across country as to hunt over it; and though many proprietors are good-natured towards the young men, who in modern life are often hard put to it for air and exercise, others are ill-conditioned and ill-natured, while sometimes real damage has been done. Partly from this cause, and partly from the instinct of mere racing, paper-chasing has lately given way largely, in many clubs of harriers, to what are practically simple races over an appointed course from place to place. In this form the sport becomes merely a long-distance foot-race, largely on the roads.

The *dress* should depend partly upon what form the sport is to assume. For a genuine “paper-chase” a stout guernsey, and stout stockings and knickers, will be found far the best to encounter

thorns and possible immersions. For the other, thin racing costume will be preferred.

Hare-and-hounds is a splendid exercise for young men leading sedentary lives, but thoroughly sound in wind and limb. It is particularly beneficial to many such in expanding the lungs. But the racing form of it, with its absence of rests while the scent is puzzled out, and with the direct competition on the road, has some dangers for weak hearts, or may lead to enlargement, as do competitive spurts of all kinds. Youths who have grown very rapidly, and are tall and thin for their age, should take advice before going into it, since on such the fatigue may tell severely; while the occasional drenches and continual exposure might produce fatal results. A sensible medical man will be able to advise upon this; and, generally, a strong *disposition* to hare-and-hounds may probably be a sign of fitness for its enjoyment. Subject to such reservations, and common prudence when ailing or run down, or suffering from a cold, it is a noble sport for young men, and has the great advantage of absolutely compelling temperance, whilst combining the members in social enjoyment; for while the usual garments are necessarily sent on to the destination decided, and the long run is as necessarily followed by a good supper or high tea, anything in the shape of beer-swilling or spirit-drinking is fatal to any eminence in the sport itself.

Rowing.—This is very wholesome exercise, whether it be taken on the sea or on the still river, alone or in company with a friend or two. Quietly sculling along by one's self on a stream or lake has much to recommend it from a health point of view. It is rest and recreation combined. It enhances the power of the lungs, while it increases the size of the chest and arms, and even the legs participate in the delightful exercise. If not carried to excess or to the boundary-line of positive fatigue, it calms and soothes the nerves also. What more entrancing than rowing, for example, on the Norfolk Broads, with bird-song and sweetness all around?

Canoeing and boat-sailing are different branches of aquatic sports. And we may add that a specially healthful holiday can be taken on the Norfolk Broads in early summer or autumn by any one with his family. This should extend for at least a fortnight. Boats, all equipped and supplied with bedding and even a piano, can be hired very cheaply; while a man and boy are all the crew, and do the cooking well. Shooting to *some* extent and fishing to *any* extent can be enjoyed during these cruises; while the scenery is as strange and weird as any person could desire. People who have been unable to sleep for months will be wooed to sweet repose at

night on the broads, the silence only broken by the cry of some wild bird or the whispering sough of the wind among the tall waving grasses.

Beating is one of those pleasurable pastimes that if it once becomes a hobby can ill be done without. It seems to commend itself to all classes. To live by the banks of a lake or river, and to keep a boat, is the dream of thousands; while others would prefer dwelling by the sea, and do their rowing or sailing on the "salt, salt wave." But a residence all the year round either at the seaside or on the river's bank has its drawbacks. In the spring months our seaside places, with few exceptions, are sadly cold and bleakly bitter. The old, and even middle-aged, feel this most. When all sunshine seems locked up, when the wind goes tearing and careering through the muddy and almost deserted streets, and green foaming breakers hurl the shingle far inland, or raise the sand into wreaths like that of snow, then one is apt to wonder where all the bracing and nerving influences of the seaside resort have gone to. It is possible to have too much of a good thing. Again, there are months in spring and autumn when dense unwholesome fogs creep up from the face of the river and roll along its banks. At such times the delicate do well to keep away from it. But the question to be answered here, is one often asked by those about to change residence—namely, "What sort of a row-boat for family use shall we get for the seaside, river, or lake?"

Well, one must first and foremost learn to row, at any rate, and this can be done either on the river or sea; but the beginner *must* have lessons. This prevents the acquirement of bad habits. For the river at least, one must learn to feather his oar, if only for the appearance of the thing from shore. When rowing or sculling, therefore, he ought to sacrifice time to perseverance. Rowing cannot be learned in a day, any more than driving or dancing can. If people could only be got to believe this, there would be fewer boat accidents to record. When learning to row, time is of the utmost importance. The movements must be followed of the after-oar, or the man pulling stroke. The legs and loins must be used well, and the body not jerked forward, each stroke being well rowed out, the oar getting into the water each time square, or at right angles to it, and the oar each time brought to the lower part of the chest. Do not, as the tailor's apprentice was advised to do, "put the oar in deep and take it out with a jerk." This is equivalent to the sailor's advice to the second-class boy, "Throw everything (overboard) to leeward except the ashes." The lad empties the ashes once to windward, but never again.

In large cities most of the rowing will be done in wager-boats or outriggers, chiefly let on hire. Such

exercise, and the fresh air up the river, is most beneficial, and may be carried to any extent; but, from a medical point of view, the benefit of the exercise is in almost inverse proportion to its severity, and club-racing has its dangers. We do not mean that there is any special danger of the rower collapsing suddenly, which is the popular idea of danger to the heart; but amongst those who, under the stress of competition, have subjected themselves repeatedly to the most violent exertion in rowing and other athletic exercises—especially in University races—the proportion who are subsequently found to have injured their hearts, and have in later life to live in consequence with tiresome precaution, if not in constant danger, is very considerable—much more so than is generally known. We do not mean that really hard exercise injures; the injury is probably largely due to the combination of *excitement* (which alone is capable of making the heart palpitate) with the most violent exertion the frame is capable of. And those whose lives are chiefly sedentary should be specially careful that their exercise does not pass the bounds of moderation. A row up the Thames in a wager-boat, much less an outrigger, is the essence of enjoyment, if taken with common-sense.

As to the family boat for the river, whatever else it may be, it should be strong, straight in keel, broad rather than narrow, and with a good free-board. One does not want to race when ladies or children are on board; what is most desirable is comfort, luxury if possible, ease and safety. With a boat such as this, very many a pleasant excursion can be made, either on river or lake, and constitute a delightful picnic.

On some lakes, however, especially in the Highlands of Scotland, even a safer boat is needed, and the best plan is to copy that which is generally used on such waters, and be chary in the introduction of new ideas. For sudden squalls sometimes sweep over the Scottish lochs, in which a boat with narrow beam would have very little chance indeed. For a seaside place we may follow this same rule. Those sturdy long-shore men who let out boats are usually the best to give advice of all kinds, both as regards the build of a family boat, and, also, rowing or sailing her.

Canoeing is quite a branch of rowing by itself, but it is one that is attended with very great pleasure indeed, and just a spice of danger if not most carefully handled. A canoe that combines the powers of paddling and sailing both, with perhaps a sliding keel, commends itself as a very useful craft for the bachelor, if not for the family man.

Punting on the river is not so simple as it seems. It is, however, capital exercise; and when a punt is managed carefully, there is but little danger. Lessons in the art, however, should be taken, else

the gallant punter may catch one of the worst kinds of crabs that can possibly be imagined, and find himself afloat.

Swimming.—This excellent and useful pastime follows naturally enough in the wake of rowing. In a maritime country like ours every one ought not only to be able to swim, but to swim well. No matter where one takes his first lesson, whether at an aquatic club, or on the beach, or in a pond or mill-dam, he should keep up the exercise daily, until he has acquired confidence and strength. We should remember one thing—namely, that what is called “staying power” is a quality which depends on strength of muscle and lungs combined, and that dumb-bells and Indian club exercise tend very greatly to the development of both. No one can be called a good swimmer who cannot float well, and also dive, either from the bank or from a cliff or ship, this being usually denominated “taking a header.”

Although in the country boys usually learn to swim first in ponds or dams, before venturing into rivers, it is much more easy to swim in salt water. We should not advise any youngster to attempt to go far from shore, however, without some one with him. The best plan, on a gently-shelving beach, is to wade in until the water is about chest-deep, and no farther; then to turn towards the shore, and try the first experiment. Care, too, should be taken to enter the water only when the tide is flowing in, or the backward current may drag the amateur beyond his depth.

There are many well-illustrated books or pamphlets that teach the art of swimming, and the cuts are really so correct that one has but to imitate the attitudes in the water in order to attain to some degree of skill. A few further instructions from experience may, however, be of service, and especially as to the common mistake every beginner makes, of taking too many strokes. This is fatal to good swimming; and here a few practical hints, not to be found in the books, may be useful as a guide and encouragement to the learner. Almost every one at first learns just barely to keep himself or herself up in a hurried, jerky, scrambly fashion, making a great splash, but seeming, in spite of all, to remain glued to the same spot. Never mind this; as soon as you have learnt that for a few strokes *you can keep yourself up*, you have mastered the great difficulty. Next, you feel fearfully tired after only a few strokes, especially in the arms. Everybody has done the same; but this will go off gradually, yet with a rapidity that surprises you. It is partly due to the fact that the exercise is quite new and unaccustomed to all your limbs, and partly to the fact that just now you are working about three times as hard, and three times as fast

besides, as you ought to, and cannot manage your breath.

We want to improve all that, and turn you into a good and easy swimmer (very rarely seen, by the way). Just for a day or two you must scramble on as you can; trying to move a *little* slower, perhaps, and, anyhow, getting by the practice a little more strength; for the very first thing is for you to be able to take things a little more coolly in yourself, in your mind, and to be able to *think* a little about what you are doing, so as to try to do it in a certain way, which you cannot do just while you are struggling, as it were, for dear life. You may find *now* (they are hindrances till you have learnt you can keep up without them) some help from corks, or a short plank, to keep you up while you are attending to the manner of your strokes, as you must now do. There are many contrivances for giving support in the water until the first motions are mastered; but they are best avoided till the learner can at least keep himself up for a dozen strokes or more.

First take the arms in hand, and learn to push them steadily out from under your chin, palms together, to their full stretch; and then to sweep them round and back with a steady, full, grand sweep, sinking as they go, till you bring them down and round so that the palms nearly graze the hips, when they are brought up again to the chin, turned so that the edges only cut the water in rising. Never let the thumbs appear above water, or make any splash with the hands; and at first, while sweeping, keep the palms *flat* downwards. You can practise this stroke *standing* in water up to the chin, and will find that such a sweep lifts the body gently at each stroke, while the flat position makes it easy work. It is always this downward sweep of the palm that keeps the swimmer up; but later on he may turn the palm more or less backwards as well, for racing in still water; in rough water he always comes back more or less to this mere lifting stroke. Great care should be taken that in *raising* the hands to the chin again, no flat comes against the water, but only the thin edge; any flat resistance would tend to force the body down again, and is the chief cause of the splashing and flurry of novices.

But the leg-stroke is far more important—is *all*-important—in good swimming; and here the corks will come in, if you have them. Suppose the legs stretched full out behind; let heels be together, and toes turned out and *pointed* backward. Draw them up so, with knees turned out; and just as you get them up under you (as far as ever you can) bring the toes forward also, up towards the shins (all this, again, is to keep the back of the foot from obstructing the motion). You get the feet here, under you, heels

nearly together, toes spread out and forward, just as the hands get to the chin; and just as you push the hands out in front, you kick both legs out behind, but—mark this especially, for this is the first great point—as *wide apart as ever you can*. It is as if there were some one on each side of you, and you wanted to kick both away at once. Finally, as the legs get nearly stretched, gradually point the toes, and, at full stretch, bring the feet with a sweep back together, still at full stretch, which completes the stroke. It is this wide kicking, and bringing the legs back together at full stretch with the toes rather pointed, that essentially makes the powerful swimmer. He uses the whole inside surfaces of the thighs and legs to propel him, which is far greater surface than the push of his feet alone can give him; but even the soles of his feet he uses to much better advantage than a poor swimmer, and with less exertion. You must learn this stroke of the legs if you are ever to be a good swimmer.

There are yet two things more:—First, you must learn to take long, easy, powerful strokes; and if you learn in a bath, there is no better plan, when you have learnt the right use of the legs, than to persistently practise for a while in *how few strokes* you can get across it. In doing this, you must learn to “hold on” awhile during each stroke. At the moment your hands get to their full stretch in front, *keep them there* as a cut-water till your feet also have got together, with the toes pointed behind. In this position the body offers the least possible resistance, being like a long log pointed both ends; and keeping still thus for a second or two, you will find the body will still shoot on, for perhaps two or three feet (when you have practised a bit), while you have nothing to do at all! Look at the saving of labour here! When you have stood it as long as is comfortable, the stroke of the hands again lifts you out of the water in an instant, and you go on again, remembering that in each “extension” of the limbs, as it is called, you are to put *power* into the stroke, and especially to stretch your arms out to their full tension, as if there were something in the water a foot farther which you were determined to touch; it really seems as if the body went forward by force of the will to a certain extent. Study these points, and practise them; and you will soon find you are taking longer and longer strokes, till you can get through six feet of water for every one; and you will also notice, that while you take only one stroke for two or three by most of the people you meet, you still get through the water faster, though with far less exertion. Any one who does less than a yard at a stroke does not deserve to be called a swimmer at all.

There still remains the breath. This is very simple, but all-important in sea-swimming. Tho

time during which the legs are being drawn up, and the arms sweeping downwards and backwards, is the time when there is least progress—hardly any, in fact—whilst the head is lifted highest. That is the time you must *take in* the breath; and with a little care, when you have mastered the stroke, you will find it easy and natural to effect such long, slow, powerful strokes, that you take a breath for each stroke, and a stroke for each breath only. It does not matter how the water splashes over you while you are not inhaling, if you keep your head clear of it then; and this is the way. You will be surprised at the ease, and power, and command of the water, which a good system gives you when you have once learnt to practise it.

As to floating, swimming on the back, side-stroke, diving, &c., you will pick up all these fast enough when you have once got confidence in yourself and in the water. But let nothing, and especially side-stroke, tempt you away from learning first, and practising afterwards, a true and powerful breast-stroke, which is the swimmer's stand-by in every emergency, unless it be racing to the side of a drowning person, when a racing side-stroke may prove really useful.

Even the strong swimmer, it must be borne in mind, may be attacked by *cramp*. This leads to many and many a death. Another danger is that of over-fatigue. One should never try long spells of swimming on the first day of his bathing season. He certainly will not have forgotten the art—that one never can do—but he cannot be in such good form as daily practice will soon make him. It is a common thing for good swimmers on entering the water to swim straight out to sea, and, turning at a certain distance, swim back again. It should not be overdone, however, at any time, for it is usually such men that fall victims to cramp, or to syncope from over-fatigue. To be sure, one can turn on the back to rest; but he is apt to get chilled while thus resting; besides, if the tide is going out he will have all the farther to swim back.

The members of a family in the habit of going annually to the seaside for health and pleasure should all—*water* perhaps excepted—take swimming exercises; the enjoyment in bathing is then very much enhanced. Instead of the somewhat vulgar pastime of paddling, the children can then take a swim; using caution, however, and swimming at first only in shallow water, with a flowing tide and a firm sand.

It may be remarked that women—system and practice and other things being equal—usually make *better* swimmers than men, their lighter bones and softer outlines being better adapted for support and progress in the water. It is a charming sight to behold a whole family, properly dressed, disporting themselves round a raft or catamaran at the seaside.

Only a false prudery can see any objection to this when proper costumes are adopted, as they are in such circumstances by every decent family; and it is much to be wished that this system of sea-bathing should prevail, as it is already beginning to do in some places. Many lamentable accidents would have been prevented had the protection of fathers and brothers been available; and such arrangements offer the only likely chance of the time arriving when girls generally may learn enough of swimming to keep themselves at least afloat in any ordinary river accident.

One can remain very much longer in the water with safety if he swims. But on the slightest approach to faintness, chill, or fatigue, he ought to come out; while those whose hearts are weak ought to be content with simply a dip or two and a speedy rub-down with rough towels. If sleepiness supervenes, the bather ought to have a nap, after which a cup of not too strong tea or coffee will greatly refresh. A biscuit after bathing is always good, and generally devoured ravenously.

Skating.—This has one advantage over other outdoor athletic sports. Not only, if it does not interfere with business, may one indulge in the pastime all day long, but on moonlit nights as well, or even by torchlight. And this is the proper place to remind the reader that the evil effects of night air appear to be rather exaggerated. There is nothing to be feared, even by the most delicate, from spending a few hours on the ice on a winter's evening, so long as the wind does not blow high and cold, and warm clothing is worn. The exhilarating and social character of skating is well known; the only pity is that in England we get so little of it. We would warn these delicate ones, however, against over-excitement; and, if the walk home be a brisk one, against going right out of the cold air into a hot or even a warm room. Congestions and oven inflammations of the lungs are brought on in this way. The patient is said to have "caught a chill" on the ice, while in reality the mischief was done *indoors*, and by the *heat*. Cool down, therefore, in a room without fire, and wash and dress leisurely before going down to dinner or supper. The meal eaten after a spell on the ice should be a temperate one, else a bad night may be the result.

Skating is just one of those outdoor pastimes in which a girl may be, and ought to be, fascinatingly dressed. We may, however, safely leave ladies to look after their own costumes; it is our province merely to hint that boots ought to be soft, easy, and water-tight, stockings soft and warm, and underclothing of wool, but certainly not too heavy. It is a dangerous mistake to wear heavy

clothing while indulging in exercise out of doors, even in winter. The wearing of india-rubber mackintoshes and goloshes for any length of time is also greatly to be deprecated.

The younger one is when learning skating, the better; but this fact need not prevent any one under forty from taking to the pastime. One needs a friend by his side at first, however, until he has found confidence and is able to maintain his balance. The backward fall is the more dangerous, and to prevent this the body should be thrown somewhat forward and the feet turned outwards. The choice of skates is most important. There are many varieties, and the best advice that can be given to the novice is to take some one who knows with him when about to purchase.

The beginner should never miss a chance of practising; he should go with plenty of courage to the ice, and while endeavouring in every way to avoid dangers, he must not lose heart for a fall or two, but go steadily and quietly at it. Balance will come to him before long, and then his confidence will rise, and real enjoyment commence. He ought to study attitude and stroke from the first, and thus not appear to others as if dreading collapse at any moment. Even the best figure-skaters were beginners at one time, and this thought ought to give the amateur hope and courage. A hardy lad or girl generally learn to knock about with enjoyment by the end of the first day, though at the cost of considerable stiffness. The great remedy for this last is a hot bath after getting home; or, if the stiffness be severe, hazeline may be rubbed well in.

It is advisable to continue practising the inside-edge forwards till one feels safe and steady upon it, and can skate about pretty freely. Then he should study skating on the same edge backwards, in the way to be learnt from any manual—we are only giving general advice in these articles as to the course of practice—which he will find to be very easy. But as soon as (not before) confidence and balance have become well secured, the amateur should proceed to learn *skating on the outside edge*. This is not so simple as it may seem, though it consists merely in resting the body on the outer edges of the skates, or the right edge of the right foot, and left of the left. The curve thus described bends outwards instead of inwards, as it does on the inside edge. But in doing this the position of the body has to be entirely altered, and differently balanced as regards the centre of gravity. "Although," says a recent writer, "teachers of skating have invented a great many different plans for assisting pupils over this *pons asinorum*, the best and safest way is as follows:—The pupil must learn first the ordinary forward roll, the two feet being kept constantly on the ice, and the skater pursuing a serpentine course, leaning from time to time

alternately on the inside edge of each foot. Then, to learn the outside edge, he must begin to gradually lean more weight, not on the foot doing the inside edge, but the other, and after a time the foot doing inside edge may be raised entirely off the ice and placed down again the moment there is any danger of falling. By thus depending less and less on the inside edge he will learn gradually to use the outer with confidence, until whole strokes can be completed on this edge alone. In forward skating it is most important not to permit the off-foot to get in advance of the other." The greatest care, too, should be taken to maintain an upright position of body, to keep the head well up, and the eyes away from the ice under foot, to keep the shoulders down, and avoid throwing the arms about, as well as to keep the knee of the leg on which the skater is leaning perfectly straight. Any one who is always looking at his feet can never learn to balance properly, or acquire a free style of skating; and bent knees would utterly destroy the effect of the most perfect figure-work feet could perform.

After the outside-edge forwards has been thoroughly mastered, the skater is on the way to commence the study of figure-skating; for the outside edge is the key to all else, and till it is learnt nothing can be learnt, unless in the Fens, where straight racing is in vogue—that is a kind of skating of itself, and need only be mentioned. It demands even different skates, with very long and straight blades.

The dangers attendant on skating on deep water need hardly be enumerated. Black ice, if of some standing, is the most safe, till it gets wet and cracks. It should be remembered that even the best of swimmers may get drowned by falling through. If one gets wet by the ice giving way, he cannot be too soon at home; and it is better to walk or run than be driven. Arrived at home, the wet garments should at once be taken off, the skin well rubbed (but in a cool room), and dry ones substituted, unless the patient goes to bed. He may then recline on a sofa far from the fire, and a stimulant may be sipped, but not drunk right off, for the object is to restore the circulation gradually.

Many simple games may be played on the ice, and even ice parties held; but the rule must be, that every one keeps moving. It is good for young folks to be out of doors among the snow (if it be dry and crisp), provided the feet can be kept warm—the boots being rubbed with tallow—and the body not overheated; but they have to beware of coming straight out of the frost into a warm room.

Cycling ought, perhaps, to be mentioned here; but it stands so by itself, and is so important, as to be well worth an article to itself by-and-by.

WASHING AT HOME.

HAVING chosen and made the various utensils and materials required for washing at home, the next point to be considered is the method to be adopted. There are two thoroughly well-known ways of household washing. The first is washing by hand with tubs and a copper. This is the old-fashioned way of washing, the way employed by our grandmothers, and which they taught to their children. Even when the newest appliances are at her command it is well that a laundress should understand and be familiar with the method of washing by hand, because then she can adapt her knowledge to circumstances, and can see at once what is wanted and what ought to be done. Of washing by hand, therefore, a full description will be given here.

The second way is washing by machinery and by steam. Concerning this method it is evident that the process will vary in every case with the appliances. As already remarked, it is always well when using a machine to follow the "Directions for Use" which are nearly always given by the makers thereof. Generally speaking, washing by machinery is only a modification of washing by hand. The action of the machine supersedes the action of rubbing and brushing, and everything else is exactly the same. It is quite easy, therefore, for any one who is an adept at washing by hand to become an adept at washing by machinery. The same knowledge is required for both. The machine simply saves labour and wear and tear. For this way of washing a knowledge of the old-fashioned method is most helpful.

Good managers who understand washing are always most desirous to commence washing early in the morning. If there is one department of household work more than another concerning which it may be truly said that "well begun is half done," it is laundry-work. It is particularly important to begin early when clothes have to be hung out to dry. In this variable climate of ours there are many days when a bright morning is followed by a murky miserable afternoon; yet how much an hour or two's gentle breeze will do for clothes none but laundresses know. It is particularly trying to find that the best hours of the day have been spent in the preliminary processes of washing, and that when clothes are ready for the line the weather has become unfavourable. This annoyance is, however, constantly endured by people who begin washing when the morning is well on its way. If washing at home is to be anything of a success, the workers who are to take part in it must rise betimes and must begin early.

Home washing is always most easily and most satisfactorily accomplished when preparation is made the day before the wash. This preparation should take the form of collecting, looking over, sorting, and making a list of the articles to be washed, supplying repairs that are required, making soap jelly, getting together and putting in order utensils likely to be needed, putting a little water in wooden tubs to swell the wood, and last, but not least, putting the white things (that is, everything but flannels, prints, and goods requiring special treatment) to soak.

Soap.—Amongst the preparatory details necessary for washing at home mention must be made of making ready a supply of soap jelly. This compound is most useful for putting into the boiler, and for producing a lather quickly. As soap needs to be cut up for it, economical-use housekeepers save the odds and ends of soap for making jelly. The way to make the jelly is to shred the soap finely and boil it in a saucepan or in the oven with four or five times its bulk of water. Soda, borax, or washing powder, would have to be added or not, according to the hardness of the water. Of the three, soda is the least desirable. An average allowance of quantities in making jelly would be a pound of soap to a gallon of water, and half-a-pint basinful of jelly for a good-sized copperful of water. In making jelly, however, it is necessary to boil the soap and water thoroughly. To merely dissolve the soap in boiling water is not sufficient, because in this case the soap would be only partly dissolved, and when the jelly was cold the top would be weaker than the bottom. The top, therefore, would be of little value, and this would lead to waste of soap; and the consequence of the mistake would be that the housekeeper could not calculate how much soap was used, nor how much ought to be used. If the soap were not made into jelly, it would be fairly safe to allow a quarter of an inch of soap cut from a bar for each gallon of water.

Inexperienced housekeepers are very often anxious to know how much soap ought reasonably to be given out for a family wash. It is impossible to answer this question, because, as a matter of fact, the amount of soap needed depends on the dirtiness and quality, as well as on the number and size, of articles to be cleansed. There is no detail in which a mistress must be more at the mercy of the people whom she employs, than in the consumption of soap, soda, starch, &c., for laundry purposes. It is no saving to use too little soap, because this necessitates much rubbing and brushing of the

clothes, and these operations wear out the fabric. When too little soap is used, also, the water is not changed as frequently as it ought to be, and this makes clothes a bad colour. At the same time an extravagant worker could soon make away with soap, by letting it lie in water or in a damp place, without answering any good purpose, and by throwing away the scraps. The only way in which a mistress can check waste in this department is to take careful note how much soap is used at a given wash by her own laundress, compare one period with another, and draw the average. General estimates are often given, but they are rarely of value. Nevertheless, people who are anxious to gain a sort of approximate idea of how much soap ought to be given out may be glad to know that experienced housekeepers often calculate that one industrious worker, who had an eye to economy, and who had to operate on the clothes of an average household, might be expected to get through one pound of soap per day at the tub—that is, exclusive of the copper. Laundresses vary so much in quickness, however, and they adopt such different methods, that even this mild estimate must be taken with a large grain of salt. It is always wise to use soap which has been stored for a time rather than new soap, as the latter washes away the more quickly.

Stains.—If clothes are to be washed successfully, all stains must be removed *before* washing. When speaking of mending, it was laid down that all tears and rents should be caught up before washing, to prevent them going further; and, on the same principle, all stains should be taken out, to prevent their becoming fixed. Stains are to be treated according to their character, and a few suggestions for their eradication have already been given in the articles on the “Care of the Wardrobe.” Those suggestions, however, have to do chiefly with materials for dresses and outer garments. Concerning white things it may be added that chloride of lime is generally used for stains which will yield to nothing else; but until simpler means have been tried it is best not to use lime. The simpler means which very often prove effectual are as follows:—

Ink-stains are best removed with salts of lemon, of which a pennyworth may be bought of any chemist. As the salts of lemon is poisonous, and as, if not thoroughly rinsed out of the material after the stain is removed, it will burn a hole in the fabric, it must be carefully used. To use it, wet the stain with cold water, and then stretch it over a jug or jar and rub the lemon upon it until the stain disappears; then rinse in several waters. If an ink-stain is

touched with soap or soda it will turn into ironmould. If, as soon as made, it is put into milk, and rubbed a little, it will often be removed without further trouble.

Fruit, Tea, and Coffee Stains can almost always be removed by holding the stain over a bowl in such a way that boiling water poured for a short time on the opposite side will run through the stuff. Another method is to wash the stain in soap and water, and then to lay the stain in cold water for several hours, when it gradually goes away. If this does not answer, wash again and put the garment out of doors in the sun for a while; but do not boil the garment with the stain in it, as boiling fixes the stain.

Mildew.—Wet well, soap, and rub with powdered chalk, then place in the sun and air for several days, and keep wetting the spot and adding more chalk. Another method is to soak and wash the spots in sour milk, and afterwards rinse thoroughly. If neither of these remedies answer, use chloride of lime. Mildew is difficult to get out. Mildew will less quickly be produced in sprinkled clothes if these are kept away from the fire, unless of course it is possible to open them out and dry them thoroughly.

Wine-stains.—Rub with salt, and wash with cold water, on the instant. This treatment very often takes away wine-stains. If this fail, put the spot in lukewarm milk, and bring it to the boil; then rub. Wine-stains may also be removed by using a weak solution of ammonia. Soap sets a stain of this kind.

Grass-stains may be obliterated by washing with alcohol, or by wetting the place and washing with soap and soda.

Blood-stains can often be removed from an article, without washing it entirely, by applying a thick paste made of starch and cold water. Place in the sun, and rub off in a couple of hours. If not quite clear, repeat the process.

Scorches.—The result of ironing with a too hot iron makes white things look very inferior. Frequently scorches disappear if hung in the hot sunshine, or after two or three washings. To take scorches out at once, use onion-juice (obtained by crushing a boiled onion), vinegar, white soap, and Fuller’s earth. A very small quantity of each must be taken, and the garment must be well washed afterwards.

When chloride of lime must be used, take a home-made bleach, rather than a bought bleach. To prepare it, mix thoroughly a heaped tablespoonful of fresh chloride of lime with two quarts of cold water. Shake it well; let it stand for three or four days; then pour off the clear liquid, leaving the sediment behind. Bottle and cork this for use. When wanted, mix half a teacupful of the liquid with a pint of cold water. Wet the stain thoroughly, lay on

the diluted lime, and move it about. After the stain has disappeared, clear the lime from the fabric by thoroughly rinsing. Unless this is done, a hole will be found in the place formerly occupied by the stain.

Chemical Powders.—The objection to the use of chemicals in washing is that they make the fabric rot, so that after a short time the material tears almost with a touch; and if a needle is put into the garments to mend them, the fabric breaks away with the needle. Every housekeeper knows what clothes are like when in this condition; and when carelessly washed, the condition is so quickly reached that it is a great trial. The objection to the use of washing-powders is that we do not know of what they are made. Occasionally, where water is hard, some powders are undoubtedly good; and where clothes are greasy, it is necessary to use either powder or soda to get rid of the grease. These are facts which we may as well face. Of course we all know that soft water is better than hard water, and rain water is the best of all. People who can get rain water, or good soft water from a stream, are very fortunate, for under these circumstances laundry-work becomes a pleasure. The clothes are a good colour, very little soap has to be used, and the laundress gets all the credit. But when water is hard, and clothes greasy, it is only reasonable that the laundress should take either good washing-powder, soda, ammonia, borax, or what not; but *not lime*, let us hope. Lime is a most dangerous compound; it makes the linen beautifully white, but it makes it also drop into holes. Yet very often it is used so much that the clean clothes smell of it. Soda is not objectionable if used with moderation; if too freely used, however, it makes the clothes grey. Ammonia is very excellent; it softens the water and produces a lather directly, and it is entirely harmless. Borax also is very useful. It is said that the Continental laundresses, who get up linen so skilfully, are accustomed to use borax, and employ it as a washing-powder. To every ten gallons of water a large handful of borax is added, and an extra quantity is used for laces and cambrics. The borax does not injure the things washed in it, in the least, and it softens the hardest water. An ordinary kettleful of hard water will be effectually softened if only a teaspoonful of borax be allowed to boil in it.

Chloride of lime is a dangerous compound, and yet it must be used occasionally, because it is so valuable for taking out stains.

Soaking the Clothes.—There are two facts which housekeepers who contemplate washing at

home would do well to bear in mind. The first is that it is very much easier to make linen clean, and to keep it a good colour, if the clothes are soaked for several hours before being washed, and also if they are not allowed to get too dirty; and the second is that the chief requisite for washing clothes well is to use plenty of clean water. These two rules hold good, no matter what the method of washing may be; but inexperienced laundresses are singularly unwilling to believe them. So far as soaking the clothes is concerned, they always maintain that it is unnecessary, and causes waste of time and labour; and they are all the more tempted to shirk the duty because, from time immemorial, the orthodox day for a household wash has been Monday. Here and there we find housekeepers of an independent turn of mind who venture to choose some other day for the business, but their eccentricity only lasts a short time; they invariably come back to Monday, and follow the plans which their ancestors followed before them. Monday is a very excellent day for a washing-day, and it possesses the advantage mentioned in the well-known proverb, that "They who wash on Monday have all the week to dry." Yet it has one disadvantage, in that Sunday comes immediately before it, and Sunday is the Day of Rest, not suited therefore for soaking clothes.

When, however, housekeepers appreciate the importance of soaking the linen beforehand, it would be easy to arrange either to wash on Tuesday, which even the proverb says, "Is not so much awry," or else to do the business on Saturday. This preliminary process would do as much to save labour as the chemicals so often used, and would also do *no harm*. Through soaking, the dirt is gently loosened from the fabric, and thus it can be very easily rubbed out; while some of it is softened and drawn out altogether, so that simply through standing in the tubs in water the operation of cleansing is being quietly carried on without any effort or any cost. Housekeepers who doubt this fact may easily convince themselves of its truth by putting dirty clothes into clean cold water for some hours, and then examining the condition of the water to be poured off. They will find that the latter is quite dirty and discoloured; it is charged with the particles of dirt drawn out of the dirty linen. When, at least, a portion of the dirt can be extracted with so little pains, it is a mistake to neglect the easy method that does so much for us.

The second fact which is frequently forgotten by individuals who begin to wash at home is that plenty of clean water is the chief requisite for the work. When clothes are a bad colour, it almost always happens that the laundress has either mixed them with clothes dirtier than themselves, has rubbed them in dirty water, or has not quite rinsed the soap

out of them after boiling. Many laundresses have a great notion of making the same water serve for two or three sets of clothes. They like to make a good lather for the flannels, then wash the coloured things out of the flannel-water, and afterwards make it do duty for the towels. Economy of this sort is all well and good, so long as the water keeps clean; but to expect to make linen *white* by putting it through dirty water is an absurdity; and the less afraid laundresses are of throwing out dirty water, the more likely it is that their clothes will be a good colour.

In order to soak clothes successfully, it is most important that they should be separated into lots; for if articles of all sorts and of all degrees of dirtiness are put together, the soaking will do far more harm than good. Pocket-handkerchiefs should be placed quite by themselves in a bowl with a little salt; so, also, should short curtains and window-blinds, which are likely to be stained or smoked. Dusters, kitchen-towels, and very dirty articles, should also be kept separate, because they will discolour whatever is put with them; and laces and fine muslin should be tied loosely in a handkerchief to prevent their going astray. Flannels, print dresses, woollen stockings, and coloured things, will require no soaking; they will, therefore, need simply to be well shaken to get the loose dirt out of them, and to be put in a basket. The rest of the goods, such as gentlemen's shirts, underlinen of all kinds, table-linen, bed-linen, towels, pinafores, &c., should be put to soak in a tub with lukewarm water, in which a little soap or soap jelly has been dissolved. If more convenient, there is no objection to various sorts of articles of this class being put together, so long as the best things are put in first, no stained article is introduced, and the things are not too closely packed. Good laundresses who have time to give to preparation for washing, often make it a rule to "rub the clothes in to soak"—that is, they rub a little soap on the inside of the collars and cuffs of shirts and nightgowns, or other parts likely to be specially dirty, before laying them in the water. By this means they very considerably reduce their labour on washing-day.

Flannels and Coloured Things.—The desirability of getting the benefit of the morning hours is probably the reason why experienced laundresses so frequently make it a rule to begin their work by washing the flannels, prints, and coloured things. They light the copper fire as soon as possible, get the water warm, make a good lather, and then set to work. Flannels, it must be understood, should be *quickly* washed and quickly dried. They should be washed, one at a time, by being drawn

through the hands and dipped in and out of the suds; but they should never be rubbed or wrung, and they should never be soaped. Rubbing shrinks and thickens them. A wringing machine is particularly useful for them. Flannels are very easily washed properly, but more easily spoilt. When clean, they should be rinsed in clean lukewarm water in which a little soap has been dissolved. Unless a little soap is in the rinse, the flannels will be hard. They should be turned wrong side out in the rinse, should be shaken, stretched, and hung out immediately. Indeed, it is so important that flannels and coloured things should not be left to lie about wet, that unless there is a reasonable prospect of their being hung out at once they should not be commenced. It is always best to wash white flannels first, and to go on to coloured ones; and white flannels will be all the better colour when dry if a little blue is added to the rinsing. They are best dried in a wind, and if they must be dried indoors they should not be hung very close to a hot fire; yet, on the other hand, they must not be slowly dried. The white flannels being finished, coloured flannels, socks, and stockings, may be taken. The durability of stockings, as well as their comfort in wear, depends very much upon their being well washed. Stockings should be made thoroughly clean, and should be washed and dried on the wrong side. The soles, heels, and toes, require special attention. They should be stretched to shape once or twice during drying. It cannot be too often repeated that they should be hung to dry the instant they are washed. To let them remain wet spoils them more than anything.

When it continues clean enough, coloured things are generally "firsted" in the water which has been used for flannels, because this water is usually just in the right condition for goods of the sort—being a lather without soda or washing powder, and tepid, not hot. Coloured things require very careful washing. It spoils them to rub soap on them; therefore, like flannels, they should be "firsted" and "seconded" in suds. Unlike flannels, however, they should be rinsed in clear cold water.

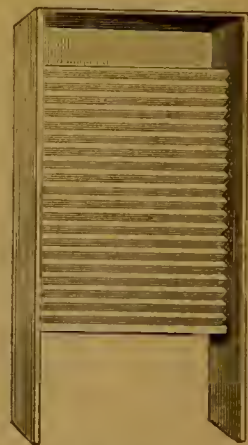
There are various ways of preserving printed colours likely to "run." A handful of salt put in the rinsing water is much approved by many laundresses, especially for blacks, blues, and cardinals. Others recommend that for the same colours a little ammonia should be put in the water. Amongst the traditions of the laundry may be mentioned the following:—That "a tablespoonful of black pepper to a gallon of water will set buffs, greys, and delicate colours;" that "a tinge of blue or a few ivy-leaves boiled in water are good for black goods;" that "vinegar or ammonia will fix colours;" that "greens and blues

should be rinsed in alum-and-water, and violets in water with soda;" that "ox-gull brightens delicate tints;" &c. &c. All these traditions, however, should be accepted with reservation. Usually we find that the strength of a colour depends upon the quality of the material; and when colours have been mixed properly before being used for printing, they stand soap water well enough. If they were badly mixed, careful washing will not keep them from fading. In all cases the surest way of preserving colours bright is to keep soda and washing powders far away from them, to wash them quickly in tepid water, to rinse in clear cold water, to dry at once out of the sun or away from a hot fire (the wrong side outwards), and to avoid for them hot starch or a very hot iron. If the colours are of a sort about which there is fear, it is well to wash a little piece of the material separately; so that if the tints "run" with ordinary treatment, one of the expedients mentioned above can be tried. When water has been tinged with the colour of a material washed in it, that water should be poured away at once, and not used for anything else; and goods of different colours should be washed separately.

White Fabrics.—When the number of flannels and coloured things is limited, the water in which they were washed is generally used for "firsting" the first whites. The laundress, however, must use her judgment as to whether or not this should be done. She has to remember that for ordinary washing by hand "whites" have to be "firsted," "seconded," boiled, and rinsed twice—first in clean warm water, then in blued water. The detail concerning which difference of opinion chiefly exists amongst laundresses is whether or not clothes should be wrung out of one water before they are put into another. For example, the preliminary soaking, already recommended, undoubtedly loosens the dirt and lessens the amount of subsequent rubbing or brushing which will be needed. Some laundresses, however, are most particular to wring the clothes out of the water in which they were soaked before "firsting" them, to wring them out of the first water before "seconding" them, and to rinse them in clean water, after washing them, before boiling them. Others will consider painstaking of this kind most unnecessary waste of time, and will simply turn the clothes from the soak into the first water, then into the second water, then into the boil, without attempting in any case to remove the dirty water which is in them between whites. This difference of method is, however, the reason why clothes are so frequently a bad colour; and it also explains the opinion held by so many laundresses that, if clothes are to be kept white, lime or other chemicals must be employed. As

already said, when clothes are a bad colour, the cause almost invariably is that dirty soap and water have not been rinsed out of them. And really, when laundresses get into the way of it, rinsing between the washings is very little trouble. All that is required is to have a tub, with plenty of cold water in it, by the side of the tub in which the garments are being washed; then, as each article is completed, it can have the dirty water squeezed out of it and be dropped into the cold water, and there left to lie until all are done. This method does away with all fear that any article will be missed. The cleansing rinsing is particularly needed just before the boil, because boiling fixes any dirt that there may be in clothes. Frequent rinsing, therefore, is a most effectual way of producing white clothes; and one of the methods of bleaching linen most approved by old-fashioned laundresses is to take the clothes from the boil and let them lie all night in cold water to "clear," then blue them the next day.

As every one knows, the object of washing clothes is to free them from dirt, and great difference of opinion exists as to whether this can best be effected by brushing the clothes or by rubbing them with the hands. Undoubtedly brushing gets out the dirt, it saves the hands, and it is a convenient way of dealing with portions of the linen that are dirtier than the rest. If injudiciously employed, however, it also wears the fabric. Of the two processes, rubbing is much to be preferred; and if only laundresses would not omit to let dirty linen lie in soak, the dirt would be so much loosened, and would fall out so easily, that it would rarely be necessary to use the brush. A washing or rubbing board, of corrugated zinc, such as that shown in the figure, will, however, be of great assistance where there is no machine or other apparatus employed. Yet there is a right way and a wrong way of doing even such a simple thing as rubbing clothes.



WASHING BOARD.

Novices seem to think that what they are to do is to rub the clothes upon their hands, and so they take the skin off the latter and do the linen little good. What they should aim at is to rub two different portions of the linen against each other, giving a little jerk or pressure between each movement, in order to press out the dirt. It is with rubbing clothes as with washing paint and scrubbing floors. Workers who have not acquired the knack, splash about, fuss,

and fatigue themselves, and make little progress; those who have skill go to work quietly, and with little apparent effort accomplish their desired purpose.

Boiling.—When all the dirt is rubbed out, the clothes have to be boiled. The water in the copper should have soap jelly or soap dissolved in it, and should then be filled with cold water to make it lukewarm. According to the accepted method, clothes are never put into boiling water, because it is believed that this would fix the dirt. Some laundresses advise that clothes should be boiled for an hour. Others say (and we think truly) that this is a mistake, and that the dirt boils out of the linen and has time to settle down into them again when the long boil is adopted. If the clothes are put into lukewarm water, and heated gently, fifteen or twenty minutes' boiling will be ample for them. They must during this process be kept well under water, by being pressed down every now and again with the stick or fork. Nor must it be forgotten that in the copper, as in the tub, the rinse, and the soak, if clothes are to be a good colour, the various "lots" must be kept separate. If fine whites are boiled with dirty towels and coarse things, of course the former will be spoilt. The finer things must be washed first, and they must not be packed too closely in the copper; and if good suds are employed for them, and if they are allowed plenty of clean water, they will be made clean without any difficulty.

Blueing.—When clothes are sufficiently boiled, they should, if convenient, be "bleached," either by being laid in cold water, as already described, or by being spread on grass. After bleaching, or, when bleaching is impossible, after boiling, without bleaching, they should be rinsed and blueed. The plan usually adopted at this stage is to lift the clothes out of the boiler into a tub, pour cold water on them till they are not too hot to handle, and then rinse them to free them from the soapy water in which they were boiled. When rinsed, they are lightly wrung and blueed. Too often it happens that clothes which are perfectly washed up to this point are spoilt in the blueing. It is a very common fault to make clothes too blue, and this is very objectionable, because experienced housekeepers know well that inferior laundresses have a habit of hiding their bad work by using too much blue. They naturally, therefore, suspect that if clothes are very blue they are not clean. A little blue improves the colour of whites, which without it are apt to look slightly yellow, especially when soda has been used in washing; but

an overdose of blue is worse than none. By all means, therefore, blue should be judiciously introduced.

Another very usual fault is that the blue lies in streaks or patches on the linen. To prevent this, make the water of the right colour by putting the blue into a thick flannel bag, and squeezing it well till it is of the right shade; put the clothes in, one or at most two articles at a time, dip these in and out, open them, and move them about in the water till they are equally blueed all over; then at once wring and shake out till all are finished. Articles should never be left to lie in blue water; they should be dealt with, and shaken immediately. Clothes are rendered streaky when the attempt is made to blue too many at once. As the clothes are blueed, the water will gradually become whiter. To preserve the tint, therefore, the blue-bag should be squeezed in it from time to time.

Drying.—It is always best when clothes can be dried in the open air in the best part of the day. Nothing else makes them so sweet and fresh. It is, however, a great mistake to let them hang out late in the evening when the dews are falling, especially in town gardens, where hanging clothes are likely to attract thieves. To allow clothes to hang on the line after sundown is as much a sign of bad management, as it is to commence a wash late in the day.

Clothes-lines, when of the old-fashioned sort, should be made perfectly secure, otherwise they may lead to disaster. Also, they should be quite clean, or they will mark the linen. To make them clean, they should be wiped with a damp cloth before use. Coloured things and woollen goods should be hung in the shade, and they should be turned wrong side out for drying. Flannel garments set in bands should have the bands pegged to the line; unless this were done, the moisture would drain into the gathers and make the flannel under the band very thick. White things, on the other hand, set in bands should be hung with the bands downwards.

Fine Muslins and Laces do not need to be hung out to dry. They can be put straight and rolled tightly in a cloth, then placed ready for starching. If it is preferred that they should be dried before being starched, in order to make them stiffer, they should be hung on a clothes-horse, not pegged on the line. *Pocket-handkerchiefs*, too, are much better not to be dried. They should be drawn straight, folded in four, rolled in a cloth, passed through the mangle, and then ironed while damp. This will give them a gloss, and make them rather stiff. If they cannot be mangled, they should be folded double and hung up in lots, and half dried only; then be rolled

tightly, and left for a while. To peg pocket-handkerchiefs to the line, dry them, damp and fold them, is great waste of time.

Table-linen is usually taken down when half dry, carefully folded by two persons, who pull it straight on the length; then mangled, ready for ironing.

Body-linen should be dried thoroughly; it should then be sprinkled with cold water, smoothly and neatly folded, and left for some hours, so that the garments may become evenly damp throughout to be ready for ironing. If not evenly damp, the parts which are dryer than the rest will look rough. When despatch is required, body-linen is often taken down and folded when half dry; then the process of damping is dispensed with. If left rough-dry too long, the clothes should be sprinkled with lukewarm instead of cold water. Unless folded neatly and carefully, the sides to the sides, clothes cannot possibly be made to look well. Even after mangling, body-linen should be ironed if it is to be satisfactory; and a little attention paid to plaits, gathers, selvages, and borders, is very effective. Mangling undoubtedly makes ironing easier.

Washing with Paraffin.—So much for the old-fashioned method of washing at home. Within the last few years a new way of washing clothes has been introduced into this country, and it is rapidly growing in public favour. It came from the Colonies, and was probably invented by housekeepers who could not hire efficient help in washing, and were glad to avail themselves of the readiest and easiest way of cleansing their garments while saving their labour. Miss Gordon Cumming is said to have been the first to bring it to the notice of harassed housekeepers here, and since she did so it has been mentioned in many journals, and has become very widely known.

At first the idea of Washing with Paraffin, for this is the new way referred to, was received with great scorn, and the large number of housekeepers who "have no patience with new-fangled ways" set themselves resolutely against it. Gradually, however, one after another adopted it, and those who adopted it spoke in favour of it to their neighbours; and the result has been that in large numbers of home laundries the system of washing has been almost revolutionised, and a great economy of time, strength, labour, and money, has been effected. Some of those who have tried it speak against it, but the majority are very strongly in favour of it. As yet it does not appear to have been tried in any large laundries, but only in home laundries. As employed on this limited scale it has, however, evoked much enthusiasm. It has been named "the lamp-grease *versus* elbow-grease" method of wash-

ing clothes, and the following is the order of procedure:—

Half fill the copper with water, and, supposing it now contains six gallons of water, put into it a quarter of a pound of any good soap, which soap must be finely shred. Whilst the water is boiling, sort the clothes, putting them in lots, the finest nearest to hand, the others so that they can be quickly reached when needed. When the water boils (not before), measure in a cup two table-spoonfuls of paraffin; add these, and stir well; a white lather will now be produced. At once put in the clothes, the finest first, and let them boil for a quarter of an hour or twenty minutes. Half an hour is as much as should be allowed for even the dirtiest clothes, for if boiled too long the colour will be spoilt. Put them in right side outwards, and do not use a clothes-bag or a cover of any kind for them, as it is important that the water should flow in and between the layers freely, and should touch every part. Be careful not to pack them in tightly, and also to press them down occasionally, to keep them well under the water, and to stir them every now and again. When boiled, and after rinsing, they will be quite clean, and, unless exceedingly dirty to begin with, will not need to be rubbed or brushed at all. Neither soap-powder, soda, nor chemicals, will be needed for them, and thus the injury to the clothes caused by such compounds will be entirely avoided. What is necessary, however, is to rinse the clothes thoroughly in very hot water as soon as they are taken from the copper, because a slight greasiness attaches to them, and this greasiness can only be removed with hot water. Rinse them, therefore, in hot water; then in cold water, and finally blue them. The slight smell of oil which adheres to them will disappear when they are hung in the open air to dry.

To housekeepers who are not acquainted with it, this mode of washing will appear so extraordinary that it will perhaps be well to quote Miss Gordon Cumming's own words respecting it. This lady says:—"Mineral oil offers to be the ready benefactor of that great body of women whose lives are embittered by the ever-recurring toil of the wash-tub. It seems that by the addition of a very small amount of mineral oil to boiling water and soap, almost all manual labour in clothes-washing may be dispensed with; for at the end of half an hour the clothes will be found so clean that little further is required, save to rinse them out in two or three hot and cold waters. The smell of paraffin is not pleasant during the boiling process, but after the final rinsing, no trace of it, it is said, remains, and the clothes are easier to iron. Henceforth all temptation to use deleterious bleaching powders must surely be at an end, for nothing can be cheaper

or simpler in its application than this use of mineral oil, which has no injurious effect whatever on any animal or vegetable fibre. It is equally good for linen, cotton, or woollen clothing; it does not affect the colour of cotton dresses or of flannels of the ordinary 'fast colours,' and it can be used with equal success in a copper or iron boiler, with wooden or earthenware tubs. The only precaution to be remembered is that no careless sloven shall carry her bottle of inflammable and explosive oil to the fireside and pour the oil direct into the boiler, but shall measure the requisite quantity into a cup at a respectful distance."

Miss Gordon Cumming says here that separate measurement of the oil is the "only precaution" necessary. The method having, however, been tried and approved by large numbers of housekeepers, other dangers have been pointed out. One of these has been already mentioned. It arises from the tendency of the oil to make the hot water rise in the boiler; therefore, unless care is taken, the water may overflow, the laundress may be scalded, and the wash-house deluged with water. This mischief is easily prevented, first by half filling the boiler only, and secondly by stirring the clothes and pressing them under the water.

Another precaution not to be overlooked is that the water used for boiling the clothes must be changed very frequently. Those who are most enthusiastic about this mode of washing, almost always have clean water for every set of clothes. What there is in paraffin which makes it draw the dirt out of linen, it is impossible here to say, but that it produces this effect is undeniable. In the process, however, the water is made exceedingly dirty, and becomes charged with a greasy, yellow scum, and this scum settles on the sides of the boiler; and if left will sink into the second batch of clothes, and make them very dirty. Consequently, the copper must be wiped out each time it is emptied. Unless this detail receives attention, the new way of washing will be a disappointment. When washing is over, also, the tubs and rollers, and all utensils which have been employed, must be thoroughly scrubbed and made clean, to make them ready for next time. This business, however, is not unusual; it is part of the regular work of a laundress. But if paraffin is used, it needs to be done with special care, to get rid of the grease which has been employed.

This greasiness of clothes which have been boiled is the reason why the articles need to be rinsed first in very hot water, and this necessity often occasions a little inconvenience. As all practical housekeepers know, it is not always easy in ordinary kitchens to provide a second supply of hot water for rinsing

when the copper is occupied. A practical writer in the *Queen* newspaper (signing herself Bessie Tremaine), who had tried and approved of the new way of washing clothes with paraffin, and written largely upon it, has made a very sensible suggestion. This lady said, "It is absolutely necessary that hot water should be used for the first rinsing, to get off the slight greasiness and free the clothes from smell. Unless there is a second copper, or some other means of getting a large supply of hot water, it will be seen that this is awkward. The difficulty can, however, be got over by throwing the clothes as they are taken up into a plentiful supply of cold water, adding what boiling fluid can be obtained from the kitchen or otherwise, and there letting them lie until it is time to change the water in the copper. They can then be put back into this with clean water, without soap or oil, and be brought to boiling-point again. With the cleansing elements added to it, this last water will do for another batch of linen, and so on."

It will be noticed that Miss Gordon Cumming says, the new way of washing is "equally good for linen, cotton, or woollen clothing." On this point the housekeepers who have adopted the new method are not in accord. Some declare that flannel can be boiled like cotton and linen, and though made a little yellower are yet perfectly washed. The majority, however, maintain that though flannels and prints may be "steamed" they must not be allowed actually to boil. Concerning flannel, therefore, there is room for difference of opinion. Miss Bessie Tremaine, the lady already quoted, and who is an authority deserving of respect, says, "I can quite understand housekeepers hesitating about boiling flannel garments. It was in fear and trembling that I tried the first experiment myself, but the result was most satisfactory, as the flannel neither shrank nor became hard, though it seemed rather more yellow than when washed in the old way. My next experiment was on a flannel vest, which had come from the laundress literally grey in colour and stiff as buckram. I was told, with many apologies and expressions of sorrow, that it had been boiled with the linen by mistake. I determined to try what another boiling in my way would do for it. I am happy to say that with a quarter of an hour of the paraffin treatment it is a wearable garment again. All the grey colour (which must have been dirt from bad washing) has disappeared, and it feels soft as new flannel. My latest experience is with perfectly new flannel, which had been shrunk, but never washed; and this has turned out equally well. Needless to say these garments are not boiled with other things, but have perfectly clean water awarded them, and I am most particular that the soap should be thoroughly dissolved, and the paraffin well mixed

with the water, before they are put in. They are plunged into the boiling water, thoroughly stirred about, and allowed to boil for fifteen minutes only; then rubbed through two clean waters, and dried out of doors. . . . Before attempting spring dresses, when the colours might be fleeting, it is safest to try a strip of the material and judge by results. A light grey beige, to which I allowed ten minutes' boiling (first taking out all pleats), came out beautifully clean, but slightly shrunk. Blue and white zephyrs, also one with grey, white, and pink stripes, seemed much improved by their immersion, and certainly lost none of their colour."

Excellent though this mode of washing has been found, Miss Gordon Cumming says that a "yet more excellent way" has already been discovered and widely practised both in America and New Zealand. There only the best kerosene is employed, as being more free from smell; and, moreover, for that reason the soap can be dissolved and the oil added while the water is still at a low temperature. Concerning this improvement, however, it may be remarked that kerosene is after all only the refined sort of paraffin. The more refined the oil, the less likely is it to cause an unpleasant smell; while in any case the amount of oil used is so small that the difference in price between the two qualities is not worth considering.

A much more decided improvement than the use of kerosene is the employment of Paraffin Wax, or Laundry Paraffin. This material is to be bought at most oilshops. It is supplied in one ounce cakes, and made up in half-pound and one pound boxes; an ounce being sufficient for twenty gallons of water. The manufacturers of this article claim for it that it causes no smell whatever. The clothes, especially when very dirty, are better to be soaked, as with the old-fashioned method; but they rarely require rubbing, and washing-boards and washing-powders are entirely dispensed with; thus obviating great wear and tear of the linen.

A few of the housekeepers who approve of the plan of washing with paraffin which is described above, but who cannot make up their minds to break with the past so far as to *boil* flannels, declare that the cleansing properties of paraffin may be utilised to the full without boiling, by simply using the paraffin mixture instead of an ordinary lather for washing flannels. These housekeepers make water hot in the copper, dissolve the soap therein, add the paraffin, thus producing a fine white lather; then transfer the lather to the tubs, put in a few flannels at a time, squeeze in and out, rinse in ordinary lather, and dry at once. By this means they say that they save time, labour, and soap, and obtain an excellent result.

New Way of Washing Flannel.—While speaking of the innovations which have been made in methods of washing during the last few years, it would be an unpardonable omission if no mention were to be made of the modern mode of washing flannels, apart from the use of paraffin. As all housekeepers know, it has for many years been a tradition in laundries that flannels and all-wool fabrics must be washed in "warm but not hot water," and that hot water ruins the fibre of the wool. This dictum was regarded as a domestic truism, deserving to be classed by the side of gravitation, and the passage of the earth round the sun; all being facts not open to question. Of late, however, certain modern housekeepers have ventured to dispute it, and to say that flannels and woollen fabrics are best washed in very hot water, as hot as the hand can bear. There is, indeed, no denying that these housekeepers are able to produce flannels and woollens, washed in their way, which are soft enough and clean enough to satisfy the most exacting laundress. Even lamb's wool, which is perhaps as difficult to wash without shrinking as any other wool, is perfectly soft, and not shrunk after this treatment. The truth of the matter seems to be, however, that what injures flannels and woollens is not so much the temperature of the lather into which they are plunged, as the practice of not drying them *immediately*, as soon as they are rinsed, but leaving them to lie about wet or damp. This it is which makes woollen goods rot, and lose colour; and this it is which makes coloured goods fade. By all means, therefore, housekeepers should beware of this mischance, and should give strict orders that goods of this description should be quickly dried.

As a sort of specimen of this mode of washing, the following recipe for washing woollen or merino socks or stockings, merino vests and combinations, Shetland shawls and similar articles, is given:—

New Way of Washing Wool Fabrics.—Make some soap jelly by boiling any good soap, finely shred, in five or six times its bulk of water, without soda. Have two basins filled with water as hot as the hand can bear. Dissolve a large cup of jelly in each basin, to make a strong lather. Shake the dust out of the garments, squeeze and press them, and dab them in and out of one basin, and pay special attention to the heels and toes of stockings and socks. Squeeze the water out, and put at once in the other basin, repeating the process. It will be astonishing how clean they will become when the second water touches them. Rinse through a third water, and dry off at once. Shetland shawls should be rinsed without soap, shaken gently, and pinned on a sheet to dry. Stockings and socks should be stretched when

taken out of the rinse, and are more likely to be soft if a very little soap is in the rinsing water.

To Wash Sanitary Woollen Garments.—

Woven garments of this description are much used in these days. The following is the method of washing recommended by Dr. Jaeger, the inventor of underclothing of this description:—

“The clothes should be placed to soak in water (at about 100° Fahr.), in which soap has been boiled up.

“To about every six gallons of water (or sufficient for washing six large garments and several smaller articles) add three tablespoonfuls of liquid ammonia, which removes grease deposited by perspiration.

“Any good soap may be used, but ammonia soap, which combines ammonia in the proper proportion, is recommended. The proportion to be used is $\frac{3}{4}$ lb. in six gallons of water.

“Cover the clothes well up, as the sustained heat assists the removal of grease.

“After an hour's soaking wash out, by drawing through the hand, avoiding rubbing. Very dirty spots should be brushed with a soft brush.

“To thoroughly remove the soap, rinse out twice in lukewarm water.

“The use of a wringer is recommended, as it expels the water with the least friction.

“Hang up the clothes to dry lengthwise.

“Iron while still damp, stretching the articles to the necessary length and width. The iron should not be unnecessarily hot. No soda or lye should be used. The smell of ammonia disappears when the soap is removed.”

Coloured Flannels and Woollen Socks, especially blue and cardinal socks, are generally difficult to wash. Cardinal socks usually wash fairly well if the dye is good. A great deal depends on quality. Cardinal socks should be washed in lather, and rinsed in salt-and-water. Blue socks and coloured stripes should be washed quickly in lukewarm water, made into a lather with soap jelly, to which a piece of ammonia has been added. Two lathers would be needed for them, and salt should be in the second. When rinsed, they should be rolled smoothly and tightly in a cloth, not ironed and not hung in the sun.

To these remarks it may be added, that even when the general washing is put out, housekeepers would often find it to their advantage to wash at home underclothing made of merino and wool. The professional laundress usually sends home articles of this sort thoroughly clean, but so scoured that all the warmth and virtue are gone out of them. Garments of this sort are not troublesome to wash, because they need no boiling: and their value is preserved much longer when carefully washed.

To Wash Blankets.—Blankets are generally sold double, a pair in one piece. It is not, however, desirable to keep them so; and they are much more easily washed if divided. It is most necessary to have a fine day for washing blankets, in order that they may be hung in the air as soon as they are taken from the rinse. Blankets dried indoors are a mistake. They are best when dried in a gentle wind.

Blankets should not be rubbed, and soap should never be rubbed on them. The best way of dealing with them is to have a good tubful of warm water, just warm enough to feel pleasant to the hands, and make it into a good lather by melting in it a cupful of soap jelly made without soda. Put the blanket in this, and let it soak a few minutes, while a second tub, exactly like the first, is prepared. Move the blanket up and down in the suds, and squeeze and press it against the sides; then put it in the second tub, and place another blanket to soak in the first tub. Squeeze the blanket in the second water, and when it looks clean, rinse in clear warm water, being careful to get the soap well out. Each lather will probably serve for two or three blankets, but it is most important that the water should be clean. The good colour of blankets depends very much on the cleanliness of the water in which they are washed. On no account wring the blanket tightly; to do so would spoil the nap. If a wringer is used, let the rollers be loose. Shake well, then hang singly and quite straight on the line, and shake and pull the blankets several times whilst drying, to raise the nap. After being thoroughly dried out of doors, let them be turned about for some hours before a good fire indoors to air them. It is most important that blankets should be perfectly dried through and through.

Blankets which have never been washed are much more difficult to wash than are blankets which have been washed several times, and yet nothing spoils a good blanket more than to wash it badly at the first washing. New blankets seem to contain a good deal of grease, and they do not take the lather as well as old blankets: consequently they ought to be kept separate and washed by themselves. The best way to deal with them is to press them through two or three lathers, in which a handful of borax has been dissolved, until they look quite clean.

Mention has been made of “new ways of washing.” Some months ago, in an American journal named *Good Housekeeping*, a new way of washing blankets was mentioned, and this, though very unusual, was so highly approved by housekeepers who tried it that it may be quoted here. The following is the recipe:—“Take one half-cake of soap, cut into small pieces, and dissolve thoroughly in hot

water. Pour this into enough cold water to cover the blankets, add two ounces of borax (pulverised dissolves most readily), and put the blankets in to soak all night or longer. In the morning take out and squeeze most of the water out, and rinse thoroughly in cold water in which a little borax has been dissolved. Put through a second rinsing water, and then through bluing water. Do not wring or squeeze them this time, but hang them up to drain and dry. The easiest way is to take them out under the line in the tub in the last water. Hang single on the line, and take a sunny day. If the wool is very greasy, use more soap and borax."

Lace Curtains.—Take the curtains down and shake them lightly, to get rid of the loose dust; then lay them to soak in cold water, leaving them plenty of room. If very dirty, let them soak in two or three waters. The more the dirt can be drawn out by gentle ways, the better. "First" and "second" them in a good warm lather, but do not rub them; simply squeeze them, and dab them up and down; to rub them would break the thread. Boil and rinse them, then lay them in cold water for some hours to clear. Blue them lightly, and let them dry before starching. Pass them through thin starch, for they must not be too stiff, or they will not look lacey. *Do not iron them.* To do this is a great mistake. It is very liable to tear the curtains, and it entirely robs them of their new look. Stretch them very gently on a sheet, and pin the sides down carefully and evenly, and try to get them quite straight. Put the pins very close together, in order to prevent the edges drawing into points, and keep the line quite regular. Sometimes housekeepers who are anxious to secure this end tack two strips of coarse muslin down the sides, wash these with the curtains, and put the pins into them. Dry as quickly as possible, either by opening the window or by placing the curtains in a warm room. If slowly dried, they will look rough. Lace curtains thus treated will look nearly as good as new. By putting a little saffron or a little yellow ochre into the rinse, curtains may be made any colour, from cream to gold. A coffee-coloured shade is produced by boiling coffee-grounds and adding the water to the rinse.

Lisle Thread Stockings.—Make a lather of curd soap and water, and put in a handful of salt. Dip the feet in first, and wash them only; then wash the whole stocking quickly, and dry at once, not in the sun or too near the fire; and do not iron the stockings.

Some housekeepers make a point of washing Lisle thread in bran-and-water, using no soap.

Black Silk Stockings.—Wash quickly in lather of almost cold water, to which a little ammonia has been added. Two lathers will be needed. When clean, roll lightly and smoothly in a dry cloth, and do not iron.

White Silk Scarves and Stockings.—Wash in a lather made of lukewarm water with white soap dissolved in it; rinse thoroughly in blued water to which a pinch of salt has been added. Wring by folding in a towel. When all but dry, iron on the wrong side with muslin between the iron and the silk. Silk stockings of different colours should be washed separately.

Tussore Silk.—Soak in cold water, wash in lukewarm lather, rinse in salted water, dry in the shade.

Art-Muslins, Cretonnes, and Crewels.—The safest plan with materials of this sort is to try a little piece first; and if the colours "run," to have the fabric cleaned instead of washed. *Art-muslin* should be soaked in cold water, then washed in tepid lather without soda, and rinsed in salted water, allowing a handful of salt to a gallon. Dry away from the fire; do not starch; iron with a cool iron, and stretch on a sheet, pinning down till dry. *Cretonnes and Crewels* are often washed with bran-water: sometimes with curd soap; sometimes without soap. To make bran-water, get a pint of bran and sew it in a cotton bag. Get two bowls of lukewarm water. Squeeze the bran in one bowl till the water looks yellow; put in the crewel, and wash with curd soap. Repeat in basin No. 2. Rinse quickly in cold water coloured with bran. Roll tightly between two cloths. Iron wet, on the wrong side, with a cool iron, on a board covered with flannel. Bran both preserves from fading, and somewhat stiffens the material. If the fabric is very delicate, not even soap should be used; but bran and frequent changes of water should be made to answer every purpose.

Chintz.—Wash and starch, but do not iron. When half dry after starching, let two persons pull the fabric straight lengthwise; then lay on a table, and just smooth with the hand.

Lace.—Lace requires very careful treatment. It looks best when neither starched nor ironed. What it wants more than anything is patience to soak it for some hours; then to press it, squeeze it, and shake it through several waters without rubbing it: rubbing would be sure to drag or tear it. When clean, it should be laid in clear cold water to clear, and rinsed either in blued water or water tinged

with coffee. Stretch it gently, and pin out every point carefully on a bed or a pillow. When quite dry, unpin. An approved way of washing lace is the following:—Cover a wine-bottle smoothly with flannel, then with linen, and wind the lace round it, putting the part that is most soiled outside, covering the whole with a pocket-handkerchief. Dissolve some soap in water, and put in the bottle before the water boils. Boil for an hour. Rinse in warm water, and leave till the lace is quite dry. It will probably take a day or two. Pull out carefully, and

it is ready. Lace, it must be remembered, should not be stiff, for it ought to fall softly. When a little stiffness is desired, a lump of sugar dissolved in a cup of water will probably give what is necessary; or the lace may be dipped in water in which a little rice has been boiled.

Such are some of the methods which have been approved by housekeepers of experience for washing articles that present special difficulties. The processes of starching and ironing must be treated in a separate chapter.

BONING AND LARDING.

Boning.—The question of boning appertains simply to the kitchen, and not the dining-room. In its way, it is a species of carving, and a very important one. To be able to bone a joint well, requires a certain amount of manual skill. We have before called attention to this very important fact, viz., that some persons possess the gift of using their hands, and some do not. We cannot reiterate this fact too often. A man who is a good cabinet-maker, will sometimes insist upon bringing up his son to his own trade. This is all very well in some cases, but if the boy does not possess the gift of using his hands, his future life will be ruined. In the same family, where there is a lot of children, how often will it be seen that some seem to take to the toolbox like a young duck takes to the water, while there are other boys who, though clever in other respects, are utterly helpless in the use of tools. If the cook possesses this gift of using her hands skillfully, we would strongly recommend that all boning be done at home, and not at the butcher's; for the butcher is never anything else but a butcher, while the cook, especially a French man-cook, may soon become an *artiste*. The great advantage of boning joints is that it saves waste.

Probably, the most common joint to be boned is ribs of beef. **RIBS OF BEEF, BONED AND ROLLED**—how familiar does this heading appear! In boning ribs of beef, the great desire should be to remove the bone as *bare* as possible; and remember the maxim, which is the essence of boning, *never let the edge of the knife leave contact with the bone*. If you keep to this maxim, you cannot very well go wrong. In boning the long rib, the difficulty will be that you cannot somehow help leaving part of the meat sticking to the side of the bone, while you cut down the front of the bone. In foreign kitchens they use curved knives, but we have never seen one in this country.

While boning ribs of beef, you must bear in mind

two things—the joint, and the stock-pot; therefore remove from what will be the joint, every part that will not be eaten. There is a large flap of what some persons call “paxy-waxy”—it is the tendon or sinew, and is not only uneatable, but uneutable. Then, again, you can remove lumps of gristle, and fit a piece of fat into the place from which the gristle has been cut. Before rolling up the joint, put to yourself the following question:—Were I to eat this piece of meat entirely, is there anything in it at all that I should have to take out of my mouth? If so, *cut it out*. Of course, we do not refer to the piece of yellow skin on the outside (though that is generally eaten). Now roll the joint carefully, skewer with *iron* skewers, with a little eye at the end, and, if possible, get the skewers the right length; i.e., when you run the skewer in up to the eye, do not have more than three-quarters of an inch sticking out on the other side. Then tie the joint round with broad tape, which will not cut into the meat like string.

When you send the joint to table, remove the tape, but not the skewers; these should be left in the meat till you cut down to them. How very superior these skewers are to wooden ones! especially when we find a splinter of wood in the slice of meat. We wonder whether Earl Goodwin, on the occasion of his last banquet, was refreshing himself with ribs of beef, boned and rolled by an Anglo-Saxon butcher who used wooden skewers. If it were so, it would take away some of the miraculousness of the occasion. Iron skewers are now so cheap that there is no excuse for using great pieces of wood, so suggestive of what may be termed right-down butchery. Who, too, has not witnessed the struggles of some pater-familias when, after having helped the whole of the family, he has cut down to the awful wooden skewer. Every animal is “dangerous” at feeding-time, and instead of enjoying his dinner, with a sort of holy calm, he will be found with flushed face and greasy

fingers, vainly endeavouring to withdraw the wooden skewer, which butchers never put in straight, and which makes its appearance at the top of one side of the joint, while the thickened part is embedded in the joint at the other side of the meat. After vain twisting and struggling—for, after all, it will be found that wooden skewers have a will of their own—he cuts the Gordian knot and makes a gash into the meat, bringing the skewer out sideways, splashes the clean table-cloth, and commences his dinner with an uncomfortable feeling that he has set his children a very bad example, by showing an unnecessary temper over a trifle. What an unfavourable moment this would be for a child in which to ask its father for a Christmas box! In our opinion, a thick wooden skewer in the middle of rolled ribs of beef is not a trifle, but a serious family trouble. The moral of this story is—buy and use iron skewers, which can be bought at a penny a bunch.

If you have never boned a joint, and yet consider that you are fairly gifted in the use of your fingers, go to the butcher yourself—or, should your mistress be in the habit of doing the marketing, ask her permission for you to order the joint at the butcher's, taking a basket with you to bring home the joint. Now watch the man do it himself. Butchers are, of course, obliged to be quick over this sort of thing, but you will be able to take more pains. Seeing the man do it for you will be a far better lesson than is possible to be obtained by reading printed directions, and you with more time will soon be able to do it better than he does.

After boning a joint, the first thing to do is to chop up the bones and put them into the stock-pot at once. Do not put the bare bones by in the larder. There is no reason why they should not be put on *immediately*. They deteriorate very considerably by being kept; and the longer the bones are stewed, the better the stock.

In boning a loin of mutton, of course the butcher must be told *not* to joint the meat. Having boned the loin, the joint can be served as LOIN OF MUTTON, BONED, ROLLED, AND STUFFED. Here, again, remember to roll the joint thoroughly, and tie it up with broad tape. But there is another way of dealing with this joint. The upper part, well trimmed, makes the best mutton outlets, and however careful you are in boning a loin of mutton, you will find a considerable amount of the very best part of the raw meat adhering to the bones, especially between the ribs. Chop up the bones, and then cut all the meat away from them by scraping them with a knife. Take the raw meat from the raw ends, and chop up this with the scrapings from the bones. The hard fat of a loin of mutton, when fresh, makes an

excellent suet pudding, being what is called the kidney fat, or in that neighbourhood, though not equal, of course, to beef suet. Make a dish of minced mutton from the ends, the scrapings of the bones, and the undercut. We all know how very superior a dish of mince is when made from raw meat to the usual dish of mince made from the remains of a cooked joint—especially if you do not make the mince too moist, but add only a very little of really good stock, with a slight flavouring of onion, parsley, and perhaps a suspicion of thyme, besides another suspicion of garlic. The bare mutton bones will now go into the stock-pot, and there is absolutely no waste at all. Contrast this with an ordinary loin of mutton, jointed at the butcher's, helped round in the shape of chops to each person. Scrape all the dinner-plates on to a dish, and then ask yourself which is the more economical way of dealing with a loin of mutton.

Boning poultry, such as turkeys, fowls, &c., is a much more difficult operation than simply boning a joint. Sometimes, in making what is called a spread eagle, the cook will have to split a fowl right down the back, for the purpose of being placed on the gridiron, where it has to be grilled very slowly, and then sent to table with some rich mushroom sauce. For this purpose, remember you must always use a strong knife. What is wanted is a real cook's knife. A man-cook always carries a belt in which two or three knives are attached, hung in a sheath. It is as essential to him to carry this knife as it is for an officer to carry his sword in the presence of the enemy. The knife must be broad and thick, with a sharp point, and must not be flexible. If you were to attempt to split a fowl down the back, you would find that you had no power with a knife that you could bend double, besides which the knife would be apt to slip.

Boned Turkey.—To bone a turkey or fowl so that it will be sent to table stuffed with sausage meat, or, if a turkey, perhaps containing a tongue, is a work of difficulty, requiring very considerable skill. As, however, there are few supper dishes more elegant and impressive, while it is very expensive to purchase ready prepared, we will endeavour to describe the somewhat difficult operation.

We may mention at starting that it should not be undertaken by any one who is not to a certain extent gifted in the use of her hands. Some persons have a natural gift for carving, and among children especially it will be noticed how boys differ. Probably the gift corresponds to having an ear for music, or a natural talent for drawing and painting. An ordinary heavy-fisted woman-cook would be almost sure to fail, whereas, perhaps, there might be

some big boy in the house who would successfully perform the operation, which would show that he possessed those natural gifts which, if turned to proper account, might make him in future years a rival of Sir Henry Thompson himself. What we have to do is to remove from the inside of a turkey every bone, and supply the vacuum with a bullock's tongue and forcemeat: and yet, when the bird is cooked, it looks in every respect like an ordinary turkey, and no one can find out a single break in the skin, either on the breast or back. Indeed, how the tongue gets into the turkey is a real puzzle, and is infinitely superior to the stock one of George IV., who used to wonder how the apple got into the dumpling.

First of all, the turkey must be plucked, but not drawn. This seems somewhat startling; it is, however, an important point. What is necessary is a really good strong boning-knife—not a small one, but, on the contrary, a large one, like cooks wear in their sheaths by their sides. The blade of the knife should be nearly a foot long, and not too flexible. First place the turkey with the neck towards you. The skin round the neck is, of course, very flexible. Cut off the neck, not too short, and then gradually loosen the skin round the neck, and as the skin is removed from contact with the neck it will be found to be far more elastic than you would think for. Gradually you must work away till you come to the bottom of the breast, and the first bone to be removed is that little one known as the merry-thought. Sometimes this bone is called the writhing-bone. This is one of the most difficult parts of the operation, as you are very apt to cut the meat so that it falls away from the remainder. Of course the merry thought must be detached at the bottom from the wing-bones, and then at the top from the breast-bone. The chief point is—having got at the commencement of the bottom of the bone, and detached the bottom of the bone from the bone of the wing—to keep the knife against the bone as much as possible. The secret of boning is never to let the edge of the knife leave contact with the bone. Having cut away the meat, first one side and then the other, up to the top to where it joins the breast, you will be able to break the bone from where it joins the breast, which being done, you will be free to commence to detach the meat of the turkey from the ribs and back. Of course the bones are still in the wings, but they are loose, and can be turned back with the meat. You now, with the knife, carefully cut from the breast-bone right round to the back. It is very easy to bone the breast, except just in that part where the breast-bone sticks out. Here you have really nothing but a piece of skin to depend upon. It is most important,

however, not to get the breast torn in this particular point, and we would recommend, in boning the turkey, to leave a little bit of this prominent bone sticking in, which can be easily removed afterwards.

We will now illustrate the first part of the boning process, or getting rid of what we may call the carcase, by supposing that you have a thick worsted stocking on your leg, which has by some means or other stuck to your skin, and you want to get it off without making a hole in the stocking or hurting your leg; you would, of course, commence by rolling it off. The flesh of the turkey, where there is no bone, will stretch and roll back. Where you have to keep the point of the boning-knife is touching the ribs and touching the back-bone right round, evenly. As you cut and cut away, the neck and carcase (containing, recollect, the internals) will gradually come forward, and will correspond to your leg. The meat of the turkey, thick at the breast, but very thin at the back, and amounting to little more than skin, will roll gradually back, like the stocking; the wings, of course, which for the present contain the bones, making two heavy lumps in, so to speak, the neck of the stocking. Gradually the worst part will be passed, and that is where the back and ribs are the greatest in diameter. When you have, so to speak, turned the turkey inside out up to this point, the remainder is easy. Only, do keep the knife touching the bone as you go along. Do not attempt to pull it, do not attempt to stretch it; but simply go round and round, a quarter of an inch at a time, and as you cut on—keeping the knife always touching the bone—let the meat turn inside out gradually. Let your motto be "Patience, not violence." Indeed, the slightest pretence of violence means a hole. Of course, as you get nearer to the hind part of the turkey you must be careful not to let the knife slip in to where the entrails are. When you come to the part where the legs join the back, you must detach the bone at the joint. This requires great care, as it is much more difficult to carve a bird raw than when it has been cooked. When you have detached both the thigh-bones from the trunk of the bird, by still going on and keeping the knife against the bone, the whole of the skeleton of the bird, minus its legs and wings, will come bodily out, and can be detached altogether from what looks like a perfectly shapeless piece of raw meat, which is like a bag turned inside out, with the legs and drumsticks of the turkey inside it. Of course, having removed the carcase in this way, the entrails can be taken out and thrown away, reserving the gizzard and liver, while the rib-bones and back-bones can be put by for the stock-pot, and the wing-bones and leg-bones added to them after they have been

removed from the shapeless mass of flesh in which they are at present embedded.

It is best to get rid of the carcase entrails before proceeding further, for as it is, our surroundings are very similar to a dissecting-room; and if we are not careful as to how we draw the entrails from the carcase, the smell will be in keeping. We now have, first of all, to remove the thigh-bone, and then the leg-bone, about half-way down the drumstick; but we keep in the end of the drumstick-bone about an inch down the meat, and the outer drumstick-bone, for the sake of appearances. We also take out the big wing-bone, but not the little one, otherwise the outward shape afterwards would be almost impossible. First of all the thigh-bone. In speaking of boning the carcase, we compared it to getting a stocking off a leg. A similar illustration will describe how to get the bone out of the thigh, by imagining that we have a kid glove which has stuck to the finger, and want to get it off without cutting the finger or tearing the kid. The finger is the bone of the thigh, the kid glove the meat, which is elastic round the bone; and, strange as it may appear, if you keep cutting round and round the bone (taking care that the knife always touches the bone in cutting) this flesh will stretch sufficiently to turn inside out, exactly as the finger of a kid glove will turn inside out on a hot day if we pull it, bearing in mind that if the kid had really been stuck to the finger, a sharp-pointed knife would have been necessary to have been inserted round and round the finger with sufficient care not to cut the kid. When you have got to the end of the thigh-bone, you come to the joint, where it makes a hinge with the leg-bone or drumstick. This joint must be cut through, and this is comparatively easy. It will give you some little idea of anatomy; and it is astonishing what enormous strength these sinews have, and especially when we get into the drumstick. When you cut away the flesh (about half-way down the drumstick-bone), it is best, in the case of a turkey, to saw it off. With regard to the wings, the first wing-bone must always be removed, and in the case of a large turkey the second wing-bone could be removed; but in that of a small turkey or fowl it is best left in. The third thin bone is always left intact.

We will now suppose that we have got rid of the thigh-bones, half the drumstick-bones on each side, and the chief wing-bone. Now turn the whole thing back into its proper shape, and you would hardly credit that it were possible to make it once again assume the shape and size of a plump turkey. Such, however, is the case. The first thing we require is plenty of forcemeat. Veal forcemeat is very good for the purpose; plain sausage-meat is very good; and, of course, the best of all, good

truffled forcemeat. We will not here enter upon the subject of making truffled forcemeat, but we will suppose you have some common veal stuffing that would be used for stuffing an ordinary roast turkey. This stuffing must now fill in all the chinks formerly occupied by the bones. First of all, let us take the drumsticks. Fill the part where the bone was, then put some more stuffing into the thigh, and bring the meat together. By holding the meat round the upper part of the thigh in one hand, and using a little gentle pressure of the fingers and thumb of the other hand, you can so squeeze the forcemeat into the hollow parts that you can make them look even plumper than they were before the bones were removed. Next we must have ready a tongue that has been pickled—i.e., when it is cut it will be red—and that has been got into proper shape. The shape I mean corresponds to a lady's boot with a particularly high instep. The skin of the tongue should have been removed, and the bend of the tongue must be so placed that it will be under the prominent part of the breast. The root of the tongue will have to be cut away very considerably, according to circumstances. The wings, where the bones have been removed, must be filled with the forcemeat, similar to the legs; the whole of the carcase round the tongue must be filled with forcemeat; and great care should be taken that there are no hollow places with air, because if there are, when you cook the bird, the air will expand, and will sometimes cause the bird to burst.

When you get the tongue inside the bird with the forcemeat, and you pull the skin with the neck part together, you will yourself be surprised to think how ever you got the skin back in its place again. The legs and wings look all right, but the difficulty about the shape is in the carcase. This can be improved by being pressed on the outside with the hands. If you put this turkey side by side with an ordinary one that has been trussed, you will see at once that there is a want of symmetry about the carcase part. The figure of the properly-trussed turkey corresponds, say, to an elegant young lady on horseback with a neat waist, while our stuffed turkey corresponds to a middle-aged bathing woman who doesn't wear stays: it seems straight down, with no shape at all. It can be improved by pushing here and there, till it looks like the real turkey. When we have got it into proper shape, it must be wrapped in a cloth, and the cloth tied in every possible direction, in order to preserve the shape. It should then be placed in lukewarm stock, only just sufficiently warm to melt, and then heated very slowly. The reason of this is that it is absolutely impossible to avoid having air-bubbles inside. If these are heated quickly, they will cause lumps, and, as we have said, will sometimes burst; but if the

whole bird is heated very slowly, the air will often escapo gradually, and thus the danger is removed. The stock should be gradually brought to the simmering point, but never let the thing boil at all. Let it simmer very gently for about three hours if it is a good-sized turkey, or about two hours for a large fowl or small turkey. Then remove the pot from the fire; take off the lid, and let it get cold *in the stock in which it is boiled*. By this means none of the juice or flavour of the turkey will soak out, but will get cold in the bird itself. The carcase of the turkey, as well as the leg and wing-bones, should be placed in the stock, together with a couple of onions, a small head of celery, one carrot, and a turnip. The cloth should be a new one, and, of course, the stock, which will be really none the worse with a cloth, can be made into soup, or could be cleared and made into aspic jelly; but in this latter case it would be advisable not to add the turkey bones, as it is very difficult to get any stock clear that has been partially made from bones. When it is cold, take it out. Of course the stock must not get into a jelly before you take it out, but nearly so. Remove the cloth, and then place the turkey on a dish, and see, before it gets *stone cold*, that it stands steady. If not, press it steadily and gently on to the dish, in order to make it stand firm. It will now be advisable to wipe the turkey all over on the outside with a soft cloth dipped in boiling water; and it is possible, here and there, to give it a friendly dig in the ribs, in order to make it look more respectable. Now let it get absolutely cold; and for this purpose it had better be put into the larder for the night, as it takes a long time for a solid block of meat, containing, remember, no bone in the middle, to get cold right through.

Next we must proceed to glaze it, and it will sometimes be found advisable to wipe it with a hot cloth and then flour it very slightly, using a rag like a puff-powder. Now cover it all over with a dark rich brown mahogany-coloured glaze, till it looks like a roasted turkey, fresh from the kitchen fire. When the glaze is quite cold, of course the turkey can be decorated in a variety of ways. You can put ornamental piping on the breast; the legs can be tied together, and a camellia, or imitation camellia cut from a turnip, placed between them. The best ornament of all is aspic jelly. Half the jelly should be scarcely coloured at all, but should be in appearance like pale sherry; while the other half of the jelly can be coloured a bright golden-brown. Spikes or wedges of aspic jelly should be placed round the dish; while little heaps of jelly chopped up can be placed on the bird itself. The hollow parts, by the wings and legs, should be filled in with bunches of dark green double parsley.

In carving this bird, you must take a long sharp

knife and cut it clean in half down the middle, cross-ways, choosing that part where the bend of the tongue will be. It should now be cut this way in thin slices. Of course each slice consists of a slice of red tongue in the centre, surrounded by forcemeat, which is again surrounded by the flesh of the turkey itself. The result of cooking the tongue, the forcemeat, and turkey all together is very good, so far as flavour is concerned; and as the whole is allowed to get cold in the stock in which it was boiled, not one scrap of flavour will be lost. If truffled forcemeat is used, the result is a cold dish, for flavour as well as appearance, almost unparalleled.

Of course this grand dish takes a lot of trouble, but is well worthy of such trouble. It will be found advisable to experiment first on an ordinary fowl that has not been drawn. You can fill up the fowl with the remains of a tongue or a sheep's tongue, and some sausage-meat or forcemeat. This makes a breakfast, luncheon, or supper dish by no means to be despised.

Larding.—In conclusion, we may add a few words on another operation requiring a certain amount of skill in the use of the fingers. We refer to larding. When, on a bill of fare, we see any dish described as *piqué*, it means that it has been larded; in other words, that the outside of the meat has had strips of fat bacon run through it, in order to keep the surface moist while cooking. There are many kinds of meat which are so dry that they require some artificial means to keep them moist while being cooked. The breast of a turkey is dry; and what trouble cooks take to wrap it up in buttered paper, to prevent it getting too dry! The best process of all is that known as larding. For this purpose you must get a piece of fat bacon and cut it into strips about an inch and a half long, or even in some cases two inches long. These strips should be about three-eighths of an inch square, or, when used for very small birds, rather less. In order to insert these



LARDING NEEDLE.

bits of bacon into the flesh, you require a larding needle.

It will be seen that one end of the needle is pointed and the other open. It is generally split into four pieces. The needle is thrust into the meat just like taking a long stitch. The stitch must be about an inch long. If the piece of larding, or, as it is sometimes called, the lardoon, is two inches long, the lardoon is placed in the needle, about half sticking out. The needle, on being thrust through the meat, is held firmly, so as to grasp the piece of

bacon. When this has been dragged through the meat, so that only half an inch of it sticks out, you cease to hold the needle tight, but drag it out by itself. Consequently, the flesh of the meat—say, the breast of a turkey—contains a piece of fat bacon an inch long, with half an inch sticking out on each side.

It is very important in larding to remember which way the bird will be carved. Suppose the bird is a turkey. We should have to put in the larding at right angles to the direction of the knife along the breast. Suppose, for instance, we put in twenty strips of fat bacon, side by side in a row. When the turkey was carved, the knife would cut these strips of fat across, and, consequently, this slice would show twenty little round spots of fat, not more than a quarter of an inch in diameter, because the fat melts and the larding needle is round. This is an improvement to the slice of turkey; but, if the larding had been put in the other way, when we came to cut the bird, we should have, here and there, strips of fat an inch in length, which would be disagreeable both to the sight and taste.

There are several dishes that really require larding. One of these is *fricandeau*, which, as you know, is that part of the leg of veal generally called the cushion. *Fricandeaux* are extremely tasteless and poor, unless well larded, as the meat is very dry without it. Of all birds that require larding, none so demand it as Guinea-fowl, which, perhaps, is the driest meat that is ever placed upon the table.

The most common dish sent to table that is greatly improved by larding is a roast hare. Probably the experience of most persons with regard to roast hare will be, that the meat is generally too dry—more especially the back, which is, of course, usually esteemed the best part. Many good judges of cooking, however, prefer the leg to the back; and probably the reason of this is that the leg is generally far better cooked than the back, the former being often juicy, the latter—we won't say "never," but—"hardly ever" moist. Now if a hare is thickly larded the whole way down the back, from neck to tail, the meat will be moist and juicy. Many years ago old-fashioned cooks used to place slices of fat bacon *inside* the hare before they inserted

the stuffing; but the French cook's plan of larding the flesh is infinitely superior.

So important is it to keep the flesh of hare moist, that in making entrées of fillets of hare, not only should the fillets themselves be well larded, but, according to M. Francatelli (formerly cook to the Queen), they are cooked in a stewpan the bottom of which is lined with thin layers of fat bacon.

Sometimes, when any meat of poultry, such as *fricandeau* of turkey or hare, has been well larded, and the joint has been cooked, the larding will be too conspicuous—that is, pieces of partially-melted fat bacon may be seen sticking out of the meat: for instance, out of the breast of a turkey. When this is the case, of course the dish is unsightly, and the larding requires what French cooks call "drying." This is done by means of a salamander; but to bring our ideas down to the capacity of a woman-cook (supposing she has been induced to lard a turkey at all, which is more than doubtful), we will explain the drying process as *melting* very quickly the pieces of bacon sticking out. This can be done by holding the breast of the turkey, or the fillet, as the case may be, close to a fierce fire. The salamander is, however, best, as you can see better what you are doing, and run less risk of burning.

Unfortunately few English kitchens possess a salamander, and the only substitute—a *red-hot shovel*—has its drawbacks; it is cumbersome to use, and, undoubtedly, making a shovel hot upsets the fire, and with it the cook's temper.

After the breast of a turkey or any bird has been larded, and the larding has been "dried" (if necessary), and the meat properly browned, it always requires a spoonful of good *clear* rich gravy or glaze to mask it over. If you have ordinary brown gravy sent to table with a joint, it is not altogether suitable for the purpose, as the gravy is not *bright*. A little drop—say, half a teacupful—of extract of meat and water, thickened with cornflour, would make a good substitute for glaze. Of course glaze is the best; but this substitute is simply a cheap varnish which enhances very much the appearance of the breast of a turkey, pheasant, or fowl, when hot. Similarly, if the glaze was wanted for *cold* turkey, gelatine must be substituted for cornflour.

FEATHER WORK.

FROM the earliest ages the plumage of birds has been prized for its beauty, lightness, warmth, and general adaptability to the purposes of home and personal decoration. More especially has this been the case in tropical countries, from whence we still obtain

marvellous works of art made up of the gorgeous feathers of the bird of paradise, parrot, macaw, humming-bird, and many others. There are few people who on seeing some of these pretty, fanciful articles, are not desirous of imitating them, but it is not

always easy to procure such a variety of colours as those of the feathers in the originals. Such workers must perforce console themselves by the knowledge that if the plumage of our common British birds is more sober in tone, it is fully as beautiful in the gradation of shades of colour, and that it is in our climate better able to stand hard wear and tear than that of their foreign relatives. Hence it is possible to make both pretty and serviceable articles from the plumage of such common-place members of the feathered creation as the barndoor fowl, the pigeon, and the ordinary white goose. This may be done, too, without exciting the indignation of the members of the Selborne and kindred societies, for many of the birds used as food have feathers quite as bright in tone and fully as delicately shaded as any of the rarer wild species. Take, for instance, the cock pheasant, than whose plumage nothing more rich in tone, or more exquisitely marked, could be desired. Birds kept in aviaries, too, often come to an untimely end, and provided the feathers are not injured, afford a splendid opportunity for amateur taxidermists to display their skill. As beautiful plumage can scarcely be shown to better advantage than on hand screens, we will begin by giving directions for these before passing on to the many other ways in which loose feathers and wings may be turned to account.

Skinning and Stuffing.—The skinning and stuffing of a bird is by no means so repulsive or difficult a task as many people imagine, and, if it is deftly managed, the body of the bird is in no way injured or rendered unfit for the table. Needless to say, it must be thoroughly cleansed from any smears of arsenical soap that an unpractised operator may have left upon it.

We will suppose a fine cock bird of good plumage has been procured, and that it has not been long dead. The longer the time that has elapsed since it was killed, the more difficult will it be to remove the skin successfully. When selecting a bird, if it has been shot, it must be overlooked to see that none of the feathers have been dabbled with blood, since it is almost impossible for an amateur to remove such stains without spoiling the plumage. The tools required are very simple, most of them being such as are to be found in every household. A strong and very sharp penknife, an ordinary quill pen, the ribs of which have been cut off and the tip shaped like a miniature scoop, some fine strong twine or packthread, some lead weights, a piece of flat deal board large enough to hold the outspread wings of the bird, a needle or two with eyes sufficiently large to take the twine, a pair of pliers, a hammer, a few tacks, some short steel pins with small heads, some copper wire, cotton-wool, and an old pair of gloves.

The other requisite, arsenical soap, must be specially procured. It is advisable, when possible, to purchase the soap ready made, but there are several formulæ for preparing it at home. The following recipe is considered the most efficacious:—Mix three drachms of distilled water with half a drachm of carbonate of potash, one drachm of camphor, half an ounce of white soap, and half an ounce of powdered arsenic. Another and a simpler preparation is made by melting six ounces of ordinary brown soap in hot water till it is as thick as cream, and then adding four ounces of powdered arsenic. We need scarcely remind our readers of the poisonous properties of arsenic. It is doubly dangerous in its powdered condition, for, being white, it is, if left standing about in an open vessel, extremely likely to

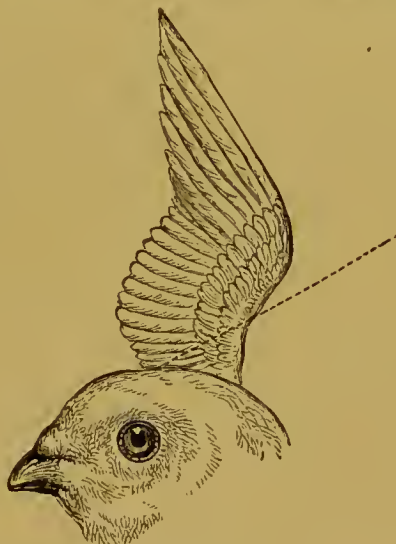


Fig. 1.

be taken for sugar or arrowroot; and many instances have been recorded of such mistakes bearing fatal results. It is advisable to keep it under lock and key when not actually in use. Gloves should be worn while it is being applied, in case of there being any small crack or sore place on the hands to be inflamed by it. Its object is to render the skin of the bird soft and pliant, while preventing the ravages of moths and other injurious insects. Some taxidermists prefer corrosive sublimate to arsenical soap, and it is used much in the same way.

The bird chosen, and, together with all the necessary tools, placed on a firm wooden table, the first thing to do is to cut off the wings. Although these do not require to be as fresh as the portions which have to be skinned, it is well to remove them at once, or they are apt to get in the way while the other parts of the body are being operated upon. In Fig. 1 is shown by a dotted line the angle at which the knife should be placed in order to cut away the parts that are not

required, and to leave those most suitable for mounting. The wings may be left for some days without harm if it is impossible to attend to them sooner. The bird must be placed on the table breast uppermost, and with its head towards the worker. The carcase should be weighted on those portions that are not required, to keep it from slipping. Some operators use an arrangement of chains with hooks attached for this purpose. The chains are passed across the body of the bird in different directions, some of the hooks being attached firmly to the skin or a strong muscle, and others to the table. Lead weights or a few tacks, however, will answer the purpose quite as well, and are indeed less difficult to manage where only a bird, once a month perhaps, is to be thus handled.

The feathers on the breast must be held back as low down as will be necessary to secure a good effect when the bird is mounted. The skin must be cut between, and without damaging the feathers, straight across the breast. The slit must be sloped slightly up towards the head when the wing joints are reached, the bird is then turned over, and the cut continued straight across the back. Care must be taken not to get the incision too deep, or the flesh of the bird will be interfered with. Slight difficulty, too, may also be experienced in the actual commencement of the operation, as some skins are far tougher than others. It is a good plan to pick up a small pinch of skin on the tip of a hooked dissecting needle—a crochet-hook forms a good substitute for this—and to make a snip in it with the point of a pair of scissors. The tip of the knife can then be inserted, and the operation continued without further difficulty. The bird must now be laid once more breast uppermost, and the skin gently raised all round the body above the slit edges.

When once this is done so as to afford sufficient hold for the fingers, the skin may be drawn inside out, like the finger of a glove, over the neck and head of the bird, the lower part of which must still be weighted or tied down to keep it steady. This operation can be assisted by the blade of the knife. It is a good plan to occasionally dip the fingers into plaster of Paris during this part of the work, to prevent them from sticking to the flesh, and to absorb superfluous moisture. When the narrow neck portion of the skin has to be drawn over the head, it will be found necessary to stretch it slightly; this will be the more easy to do the fresher the bird. In some birds, however, it is necessary to cut a slit down the length of the neck, to enable it to be thus drawn over the head. Wherever such a slit has been made, it has to be sewn up again before the bird can be mounted successfully. Great care is necessary, as it will be found that the feathers have

an unfortunate propensity for getting in the way of the needle and thread. The two edges of the skin must be laced across, as it were, each stitch picking up the skin upwards from the wrong side to the right, instead of sewing over and over in the usual way. A very short needleful of thread, too, should be taken, and the feathers carefully kept out of the way as much as possible to avoid entanglement with it.

But we must return to our half-skinned bird, which we will suppose requires no such slit. The knife will be needed to free the skin from the ears, and some sharp decided cuts must be made to sever the muscles which work the eyelids. The skin is then drawn over a little further till its progress is finally stopped by the beak. The dotted line in Fig. 2 marks the spot at which the neck should be cut across just below the skull. The body of the bird will be required no longer; but if there should be any other portions covered with feathers that it is desirable to use in their natural condition, the skin (feathers and all) must be carefully cut off, dressed with the arsenical preparation,



Fig. 2.

and pegged down on a board to dry. The head has next to be thoroughly emptied of its contents, the eyes removed, and the brains scraped out—partly by the aid of the penknife, partly by that of the quill scoop before referred to. The more thoroughly this is done, the more successful will be the stuffing.

When the operator is quite sure that the cavity has been completely cleansed, it is stuffed as tightly as possible with cotton-wool saturated with arsenical soap. Every little cranny and crevice must be thus filled in—the beak, the eye-cavities, and the nostrils. The beak must be carefully opened, the tongue removed, and its place filled with the arsenical wool, which is stuffed in as closely as it will go. A clumsy operator, when trying to shut the beak, will probably find that this will cause some of the arsenic to ooze out between the mandibles, very possibly to the detriment of some of the feathers of the neck. This must be guarded against, and only so much wool used as will permit of the easy closing of the beak. The eyes are replaced by tufts of the wool rolled as compactly as possible into pellets slightly larger than the natural eye-ball, which are pushed into place from the inside. The eyes of the bird will be found rather difficult to manage cleverly, and are generally a weak feature in amateur stuffing. The task is, however, rendered easier by the enormous choice of

artificial eyes to be had of any professional taxidermist. They are usually mounted on a small stalk of wire, which is pushed into the artificial eyeball. The skin is then drawn carefully over them, and the edges of the slits for the eyes smoothed neatly and deftly down with the aid of one of the large needles. Some stuff the skull through the eye-holes before finishing off the eyes; but the worker will soon discover which plan is preferable for the bird under treatment. The amateur must be attentive to the apparently simple matter of fixing the eyes exactly in the proper place in the socket; a slight deviation is apt to produce a whimsical appearance that certainly was not intended. The skin must be smeared plentifully inside with arsenical soap, for the use of which a bone paper-knife will be found convenient. By holding the base of the beak firmly in the left hand, the skin can then be gently pulled back over the head into its natural position. The head and neck are next strengthened with a piece of wire, which is pushed up the centre of them and out at the top of the skull. Here the end of the wire is bent over with the pliers to form a small flat knob; the wire is drawn back through the skull until its progress is stopped by the tiny knob, which is afterwards hidden under the feathers. The skin must be tightly, yet naturally, filled in with the wool, which can be more easily arranged if small pieces are tucked in at a time. Care must be taken to keep the wire in the middle, and the natural form must be carefully adhered to, so that the wool does not stretch the skin unduly in any one place, or cause it to sink in another.

Feather Screens.—Supposing a screen is to be made, the head must next be pegged down to a piece of board, exactly in the position it is to occupy upon the screen, the breast feathers being neatly arranged round it. Any feathers that have been rumped must be tidily smoothed down. The point of a large needle or pin is a tool that is very convenient for this purpose, if used in the same manner as a comb would be, supposing one could be procured as fine.

The wings must next be attended to. Fig. 3 shows the position in which they have to be mounted on a screen, and, as they have to be placed at the same angle, care must be taken to get them to dry in

precisely the same shape. As much of the flesh must be removed as possible without interfering with the joints. The skin and bones that are left must be smeared very thoroughly with arsenical soap. It is a good plan to draw a straight line horizontally on the drying-board, and a second crossing it vertically about in the middle. The elbow-joint must be pegged down at the lower right-hand side of the vertical line, and the wing gradually drawn out until the base of the largest feather is on a line with the upper part of the vertical line and touching the horizontal line. Put two pins here, one on each side of the stalk of this feather, to keep it in place; add two pins to secure the pinion in the same way. Some of the other large feathers will possibly be refractory, as this expansion of the wing will be likely to cause certain of them to stand up out of place. If this be the case, they must be pegged down with tacks in the same way. Should the whole wing seem inclined to curl up, instead of setting flat, it must be kept down by means of strips of very wide tape, which are laid across the quills and nailed down at each end to the board. The second wing must be arranged so as to correspond exactly with the first. Care must be taken, as said before, to expand it at exactly the same angle at the present time, as defects cannot easily be remedied later on. After the bird has been prepared thus far, it must be carefully set aside in some place where it is likely neither to become soiled, nor to be disturbed for about a month.

It is no longer necessary for the amateur to manufacture handles for the screen, for strong ones may be procured similar in shape to that in Fig. 3. They consist of an ornamental handle, to the upper end of which is attached a round or oval piece of thin wood pierced with holes. The wings first must be removed from the drying-board, and they will be found, if properly cured, to have settled into exactly the shape required for the foundation of the screen. One side of the oval plate of wood must be lightly covered with Lepage's fish glue, and while this is still warm and liquid the wings are placed in position upon it. They should be rendered additionally secure by stitches of twine, the needle being passed through one of the holes in the wood, over the stem of one of the largest feathers, and back again through another hole in the wood, where it is secured by a firm knot, the ends of the twine being cut off as closely as is possible without rendering it liable to come untied. In those portions of the wings that will be hidden by the head and breast of the bird, these knots may be placed on the right side of the screen, and thus the back will be all the more tidy. In Fig. 3 A and B mark the points at which the large outside feathers of the

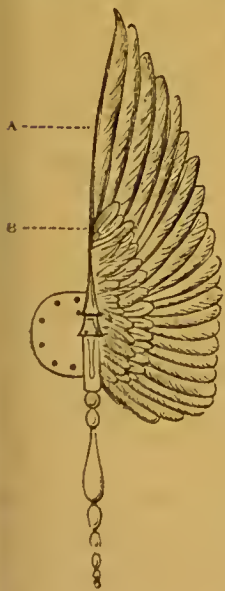


Fig 3

wing may be tied together, invisibly, to prevent the screen from having a cleft in the centre too deep to be ornamental. It is not all wings that will allow of the second tie at A, some being more eurved than others along this edge.

The next thing to do is to attach the head, and this part of the business is rendered quite easy by the wire which has

been run through the skull. Decide where the exact middle of the head is to come on the wooden foundation of the screen, and if there is no hole already in that particular place, bore one with a red-hot skewer. Pass the wire through this hole, and draw it through until the head is as close as it will go to the foundation; then secure the wire on the wrong side by bending it down close to the wood, or by tying it firmly to some of the ties of twine that were previously made to keep the wings in place. The edges of the skin must be sewn down with the twine, so that the feathers set in a circular form all round the head.

Should the screen

now have a poor appearance, as though imperfectly covered, some of the loose pieces of skin and feathers, that were previously cut off, will be found useful in supplying deficiencies, but care must still be taken to keep the arrangement of feathers on the foundation perfectly uniform and regular. It is better, if possible, to finish off the screen without the addition of bows or rosettes of ribbon, as these are apt to give an amateurish look to the whole thing, which is not desirable. If, however, the feathers have been unavoidably rumped, ribbon—properly selected—

remedies defects more effectively than anything else; but it is better to choose such as will match one of the prevailing tints of the feathers than any of a totally different colour.

All that is now necessary to complete the screen is to tidy the back of it. Cut a piece of moderately stout cardboard the exact shape of the wooden part

of the foundation, but a quarter of an inch larger all round, except just where the handle begins, for it must fit round this exactly. Cover the cardboard with watered silk to match the predominant colour of the feathers. Either glue the edges of the silk to the cardboard on the wrong side, snipping them at intervals to ensure their setting well, or else lace them across with a needle and strong thread. They must be glued to the back of the foundation, pressed down well, and the screen then laid aside, right side uppermost, to dry. The feathers round the head should have a sheet or two of soft paper laid upon them; then if weights are



Fig. 4.

placed on the top of the papers, of course avoiding the head of the bird, the back of the foundation will have all the better chance of adhering closely to it. The appearance of the screen should be as shown in Figs. 4 or 5, in one of which the bird is arranged full face, in the other in profile.

Large birds that are carefully stuffed in this way look well if mounted as banner-screens, or as summer ornaments for the grate. If for the former purpose, a shield-shaped piece of thin board, measuring about twenty inches by fifteen, will be required to mount

the bird upon. Such a one is shown in Fig. 6, made merely of poultry feathers, such as are within the reach of everybody. The board will have to be covered first, either with flutings of thin silk, or with satin or velvet. The screen is then mounted upon ornamental legs of iron, and is arranged so that the shield can be raised or lowered to any height at which it is most useful in shading the heat of the fire. A smaller screen is shown in Fig. 7, on which the common hawk has been laid out. In making such a small one the portions of the bird may be stitched or glued down to stout cardboard, and this may be strongly sewn to a sheet of buckram, which has previously been covered with some rich material that will serve as an effective background for the plumage. A few ties of thread may be made round the shafts of some of the larger feathers to keep the bird more firmly against the field of the screen. These must, of course, be afterwards hidden by the lining. For the fireplace the wood should be oblong instead of shield-shaped, and the screen may be set in a light framework of bamboo with a very excellent result. Nothing could be better or more effective for this purpose than the tail and wing-coverts of a peacock, the centre of the screen being filled up with the head and breast of the bird.



Fig. 5.

Dressing Feathers.—We will next consider the many pretty and useful articles that may be made of

stray loose feathers, belonging, perhaps, to many different birds. These must, of course, be dressed and rendered free from insects, or the fear of any unpleasant odour. The following plan is, perhaps, well known, but is the best method of preparing the feathers:—Mix a quantity of lime-water to the proportion of one pound of quicklime to a gallon of water. Stir it thoroughly, and put it aside to settle. Pour the clear water off into a shallow vessel in which the feathers have been laid. The water should be three or four inches deep, so that the feathers are thoroughly covered. Stir them about so that they become well soaked and sink to the bottom of the pan. They should be frequently moved about in the water, but must be left in it for not less than three days. The water is then poured off, and the feathers rinsed in clear cold water, and laid out to dry in bags of coarse net, which will keep them safely while

allowing the air to circulate freely round and amongst them. The net bags must be frequently shaken, in order that any superfluous dust or dirt may be rubbed off the feathers. Should any chance to be soiled, the stain may generally be removed by covering it with a paste of whitening and water. This must be left on for a few hours, or until it has become perfectly dry. It will then be found to have absorbed, if not all, the greater part of the stain, and may then be brushed off. If necessary, the operation may be repeated until the feather is quite clean. As soon as they are thoroughly dry, the feathers are

ready for use. Should any of the larger ones have become bent out of shape, they may be ironed, straightened, or trained to take any desired curve by pinning them down to a board in the form required, laying stout paper over them, and pressing them with a warm—not a hot—iron. They should be left in this position for a day or two, and will then, if the ironing has been judiciously done, be ready for use.

Should the feathers require to be dyed, Judson's colours will be found to answer very well. The feathers should be immersed for a few moments in boiling water, into which a sufficient quantity of the dye has been dropped. They are then taken out (each one separately) with a small pair of forceps, a few drops more of the dye are added to the water, and the feathers returned to it. If a certain proportion is required of a darker shade of the

colour, the feathers must be again dipped in a darker solution, and in a darker one still if a much deeper tint is needed. When they appear to have been thoroughly tinged, they are removed one by one as before, and set aside in a dark place to dry.

Feather Ornaments.—Before undertaking any large piece of work with feathers, it is necessary to sort them out into shallow trays or boxes, according to the birds to which they belong. It is also advisable to put together all the feathers that are about uniform in size, devoting separate receptacles to the wing and tail feathers. If it is possible to cover these trays with a piece of glass, so much the better; for the feathers can thus be prevented from getting blown about the room every time the door or window is opened, and yet the contents may be plainly seen through the glass.

Very pretty hand-screens may be quite successfully



made up of loose feathers, and certainly require a far smaller amount of trouble than those for which the bird's head and wings require to be stuffed. Figs. 8 and 9 show some of the more commonplace shapes in which these screens may be arranged. These shapes are to be had at many fancy shops ready-made, and so require only to be covered with feathers and lined at the back with silk. At the same time, however, they are easily manufactured at home with the aid of strong wire for the framework, and some stiff muslin for covering. Handles may always be procured ready for fixing, and can be either coloured

Fig. 6.

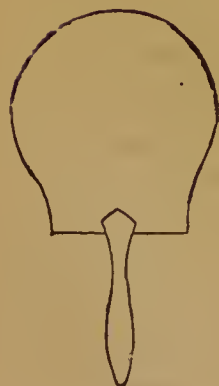


Fig. 8.



Fig. 9.



Fig. 7.

or gilt, according to taste. The penny Japanese paper and palm-leaf screens form good foundations to mount feathers upon. In covering the two shapes here illustrated, the outer row or fringe must always be placed first. Some workers like to gum the feathers on instead of sewing them; but the latter is the more satisfactory in the end, though perhaps a little more trouble is involved just at first. It is well when working with feathers to use a very short needleful of thread, which should be strong, black or white, and glazed by preference. Each stitch should be taken twice over the stems, and the first row of feathers should project at least half an inch beyond the edge of the screen. The second row must be arranged so that the feathers alternate with those of the first. It greatly increases the handsome appearance of the fan if a second frame is now made somewhat smaller than the first. This need be of cardboard only, as this will set better than if it is of wire and muslin. The feathers must be fastened to it in the same way as those on the first piece—that is, round and round until the centre is reached. The shafts of the feathers will need cutting shorter and shorter the nearer they are placed to the middle, those of the last row of all being quite tiny. When there is room for no more, the cardboard fan is glued firmly to the front of the first part of the screen, and put aside under pressure to dry. The centre just above the handle must be filled in with a full rosette of ribbon, a bird's head stuffed as before described, or with a tiny stuffed bird—such as those which, fifty years ago, were displayed as one of the chief ornaments of a well-appointed drawing-room. Another piece of card, the size of the first and larger foundation of the fan, is cut and covered with coloured silk; then glued to the back of the screen to make all neat and tidy.

The screen, of which the blade is shown in Fig. 10, makes up wonderfully well if the feathers

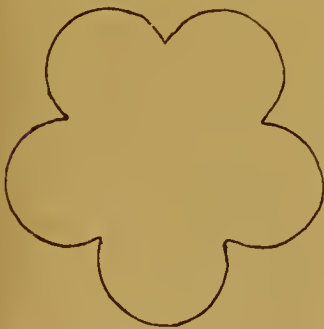


Fig. 10.

are arranged upon it to imitate a pansy, to which flower the shape bears some resemblance. The two upper sections must be covered with dark violet feathers, which have been, it is needless to say, dyed with Judson's dyes; the three lower ones with yellow feathers which shade to a darker tone

towards the centre of the flower, where is arranged a tiny bunch of small yellow feathers mounted upon a short length of wire. These fans have the merit—

and a great one it is nowadays—of being quite novel, hence they would be real treasures at bazaars. Many other flowers may be imitated in the same fashion; but their effect will greatly depend upon the careful manner in which the shades are arranged, or they will have a common appearance.

The punkah-shaped screen in Fig. 11 is one which lends itself well to an imitation of Indian work. It

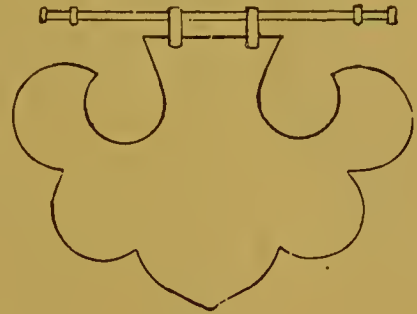


Fig. 11.

should be made up of two pieces of cardboard, each exactly the same size and shape. These are covered first with a dark rich crimson material, such as thin cashmere or flannel. Velvet looks handsome, but is generally too bulky. A row of spangles is sewn on all round about half an inch from the edge. Beyond these gold cord is sewn down in a wavy pattern similar to many that are to be had now for braiding purposes. The larger loops and open spaces between this cord are filled in with beetles' wings, the smaller ones being equally enriched with spangles. A row of peacock's eye-feathers is next glued on the wrong side of the cardboard blade; they are placed so close together that the round part of each eye touches, but not overlaps, the last one that was stuck down. They must project about four inches and a half beyond the cardboard, but slope off to about three inches near the handle. A second blade of cardboard is next prepared in the same way as the first. The design and general plan should correspond, but the scheme of colour need not be exactly the same. The two blades are then firmly fixed on with two straps of coloured cloth or velvet, as shown in Fig. 11. These screens may be made so exactly to imitate the genuine Indian ones that no one would ever imagine them to be home-made; and they are often useful in giving bright spots of colour in dark corners of a room. By covering a round shape instead of a punkah with feathers in this way, substantial and useful mats can be arranged for standing a lamp or pot of flowers upon. The cardboard in such a case must be used single instead of double, the back being neatly lined with a circle of red cloth fastened on with glue. It is well to substitute green spangles for beetles' wings,

as these are likely to crack if a heavy weight is placed upon them.

The shape given in Fig. 12 lends itself well to the making of a plumed fan, such as are just now fashionable for ladies' use. The foundation should be about four inches across, and it should consist of two pieces of card, each exactly the same size. The piece for the back of the fan must be covered with coloured satin, and to the inside of it, along the upper edge, five ostrich feathers must be glued, each about twelve inches long, but the one in the centre should be two inches longer than the others if possible. The tips of these plumes are eurbed over gracefully towards the front in the same way as those in the Prince of Wales's crest. The second



Fig. 12.

cardboard shape is then covered with small close feathers, which are arranged in a series of rings upon it. The first ring must project about an inch beyond the edge of the card, and would look well if marabout or some other downy class of feathers were used for it. The others might be of flat feathers, the centre and last of all being again of the marabout. This will do away with the necessity for a rosette or raised boss of any kind in the middle, which is always a sign of weakness in amateur work. At the back of this part of the fan, and along the top edge, should be glued five long white aigrettes such as are used for millinery. These, when the fan is completed, are supported by the five ostrich plumes, and give additional lightness to the general effect. The two circles are then glued firmly together, and long loops and ends of ribbon are added to the handle. Should the ostrich feathers at the worker's disposal appear to be too weak to stand up well without support, a fine wire covered with silk the colour of the feather may be lightly tied at intervals to the midrib of the plume. This will be almost invisible, and will greatly add to the durability of the fan. With a little ingenuity it is easy to add a tiny looking-glass at the back of the fan, framed with the silk with which this is covered.

Feather Designs and Pictures.—We will imagine that the next thing to be made is a panel for the back of a piano. When undertaking so large a task as this, it is a great convenience to have the foundation material stretched in an embroidery frame. This will prevent the stitches from puckering the background, as they would be

likely to do were the work to be executed over the hand. A rough plan of the design according to which the feathers are to be arranged must first of all be sketched upon paper the size of the piano-back. If a geometrical pattern has been selected, the positions of the various kinds of feathers must be written on the plan, and those parts that are to be covered by them must be plainly indicated. This will save a great deal of trouble and indecision when they have to be stitched down to the foundation. The design chosen must depend upon whether the whole or part of the background is to be covered. If the whole, stiff muslin will answer as well as anything: but if it is to be only partially covered, satin or velvet must be used.

Although more trouble is involved, and certainly more taste required, a feather picture is more effective and better worth doing than a mere formal design, which at best is but a superior kind of patchwork. A bold but somewhat conventional floral design is a good one to choose, and the feathers must be all selected in the required shades of colour before the work is commenced. In choosing the pattern, it is well to discard all flowers of a bell shape, and to give the preference to those which, like the ox-eye daisy, pelargonium, buttercup, anemone, and many others, are of a wide-open and somewhat flat shape. The design must be traced upon the material in the usual way. Each feather is laid on a flat surface, such as a table spread with several folds of blotting-paper, and lightly brushed over on the wrong side with a weak solution of gum and water. This is done to prevent the web from becoming crumpled or bent while the work is progressing, and has the advantage of rendering the feathers more easy to work with, while giving them some additional substantiality. Each portion of the flower must now be cut out of the paper cartoon, to serve as a model by which to shape the feather. This is next laid in its place on the framed material, and caught down to it with one or two tiny stitches of fine but strong sewing silk, which must exactly match the feather in colour. These stitches must be passed over the shaft of the feather, only taking up as much as is absolutely necessary, or a break will be made in the set of the web. For the centres of the flowers ordinary embroidery stitches must be called into play. French knots often answering admirably in this situation. For certain flowers chenille may be employed with good effect, but must be used with judgment, as, being rather thick, it is sometimes apt to overpower the feathers. The leaves, if small, can be made of one large quill, the shaft of which answers to the midrib. Where shading is required, it is often possible to introduce it with silk, but it is more satisfactory to use the paint-brush. In this case oil paints should

be used, and mixed as dry as possible, to avoid any chance of the colour running. Under certain circumstances dye may be used, but requires care, for this very reason—the damage done, if it passes beyond the parts where it is needed, can never be repaired, and may lead to the ruin of the work. Whenever the brush is used on feathers, the worker must not forget to draw it with, not against, the lines of the feather.

In those parts of the design in which the feathers are needed to be curved in any particular way they may be bent into that curve by soaking them in warm water, and pinning them down to a board in the shape in which they are required. Stroke the fibres into place, lay a few folds of a soft cloth over them, and press them with a warm flat iron until the cloth and feathers are dry. The feathers may be left for two or three days, and will then be found ready for use. The shorter the time that has elapsed since they were taken from the body of the bird, the more easy will it be to alter the slope; while, naturally enough, smaller feathers are more easily curved than the larger ones.

Here is another and still more elaborate way of managing a feather picture on a foundation of either paper, silk, or satin. The smaller the birds, the more delicate and pretty will be the work. For a screen-panel, for instance, nothing could be more charming than a whole flock of little birds made in feathers, flying over sprays and trails of some flowering shrub. The latter portions of the work are better carried out in embroidery than in feathers. Many suitable designs are to be found with little search amongst some of the Japanese works of art now so common in this country. The design is drawn upon the material, and the beak, legs, and feet of the birds, where they are visible, put in with embroidery stitches if the foundation is silk, in paint if of paper or cardboard. The body of the birds must be covered with a thick layer of gum laid on with a camel's-hair brush. Let this dry, then apply a second coat, then a third, fourth, and even a fifth, until the gum is as thick as a shilling. A careful worker will so arrange that some parts of her birds stand up in higher relief than others. When the last coat of all is dry, the bird's feathers must be laid on, beginning with the tail and working towards the head. The feathers must be cleared of all the downy portions, and trimmed in to suit the minute proportions of the design. Should the shaft be thick enough to allow of this, part of the quill must be pared away at the underside to permit it to set as flatly as possible against the design. Moisten the gum slightly with warm gum and water, just sufficiently to enable the feathers to adhere when laid upon it. As each inch, or thereabouts, of the

body is covered, lay a piece of soft linen over the feathers, and place heavy weights upon it until they are dry, and are quite fixed into place.

The head will be the most difficult part to manage neatly, so minute must be each feather, and so much taste will be needed in the shading. The eyes must be fastened down before the head feathers are laid on, and, as these add greatly to the appearance of the bird, special attention must be paid to them. Should very tiny ones be required, black beads may be used; but they must be so sewn on that the smooth black surface only is visible, and no trace of the securing thread is to be seen. If cardboard is found easier to manage than silk or satin, the bird can be arranged upon this, then cut out and glued to the richer material, the feathers being carefully stroked out, so that the edges of the cardboard are quite hidden by them. In the hands of an inexperienced worker this plan is perhaps more to be recommended than the former, as there is not so much risk of spoiling the more expensive material by hasty or clumsy workmanship. Care must be taken under these circumstances to use as little glue as possible, so that it may not ooze out beyond the feathers on to the satin. Arrangements of feathers such as this can be converted into very charming panels for folding screens, and, amongst smaller articles, are suitable for the covers of blotting-books, or for caskets employed to hold trinkets or bonbons.

If a very large amount of feathers is available, they may be made into quilts, large mats, or perambulator rugs. For these, the foundation should be of slightly-stiffened net or muslin. The work of sewing on the feathers is commenced from the outer edge, the first row projecting about an inch beyond the muslin. The feathers in each row must alternate with those of the previous one, and four or five rows of feathers that are alike must be grouped together, then four or five more of another kind, then, perhaps, a repetition of the first set, and so on until the centre is almost reached. This must be filled in with soft white feathers, or some of any other colour quite different to the others. If there should be any difficulty in procuring a sufficient variety of feathers, it is a good plan to buy some cheap wings, such as are made up for hat trimmings, and to pick them to pieces for the rug. This will save the trouble of dressing and curing the feathers, as all that is necessary is to sew them down to the foundation. The feathers will require a little careful management at the corners of the rug, where a few extra ones in each row will be needed to prevent the rows from having a poor appearance just there. When all the feathers have been sewn down to the mat, it must be lined with a piece of scarlet or crimson cloth about an inch and

a half larger than the feathered portion, and cut at the edges into small pinked-out scallops.

Butterflies may be imitated in feathers, but require much delicacy of touch, in order that they may have as light an appearance as possible. The wings are most satisfactorily executed on a foundation of that make of stiff white net used for cap and bonnet shapes. Cut the four wings out of this net in as good a form as possible, and let them measure from about an inch and a quarter to an inch and a half at the widest part. This will make a small butterfly, such as would be useful as a decoration for a fancy-ball costume, or for a similar purpose. The feathers are sewn on the net foundation, and project slightly beyond their edges. Much will depend upon the angle at which they are placed, and the second wing must be the exact replica of the first. The underwings are a trifle smaller, but the feathers on them must be sloped so as to meet those of the upper wings when they are laid together. The upper wings are effective if made of pheasants' feathers, owing to the natural shading along the edges; the under ones may well consist of the smaller feathers from the neck of the same bird, or from that of the drake, peacock, or certain pigeons. The wings must be toothed at the edges, then painted with touches and markings of black and white oil-colours. The body should be made of a tiny roll of black or some dark-coloured velvet, slightly rounded at the ends. Twist some fine gold thread round and about the body, and add two tiny beads or scraps of gold purl for the eyes. The feelers may well consist of two filaments of peacock's feathers. Sew on the wings next, and hide the place where they are joined to the body with a line of gold thread. Cover the back of the wings with either silk or velvet, and add a loop of wire in the centre of the body by which the butterfly can be pinned on where desired. Thus an insect is finished off, which, if not very true to Nature, will, at any rate, give a bright touch of colour to a Christmas tree, or will answer one of the many decorative purposes to which such marvellous creatures are nowadays applied. Gigantic insects of this kind, made on the same principle, are often seen on the front of work-bags and wall-pockets; while smaller ones are perched on photo-frames, chair-backs, fans, and are often found in many other unexpected places in a room.

Feather Articles.—Very soft-looking tea-cosies can be made of satin trimmed with fluffy feathers, and for this purpose it is of no consequence how downy they are; indeed, a mixture of down and quill feathers has a very pretty appearance. The feathers look best when they are arranged round the edge of each side of the cosy.

They should be sewn in short rows across the cosy, beginning at the top and working downwards. Three rows of down used alternately with one row of tiny but somewhat stiffer feathers is a good arrangement; while a full rosette of the feathers may, if necessary, be sewn on at the top of the cosy where the two rows meet. The flat sides may be further decorated by an initial, very delicately traced out in small feathers laid in single rows one over the other, to give an effect much like that of silk embroidery. The colours must be chosen so that the feathers and the satin ground of the cosy form as sharp a contrast as can be; but nothing could be more satisfactory than rich brown pheasants' feathers laid against old gold-coloured satin, or partridges' feathers against that particular shade of pink known as "vieux rose." Such cosies are a popular adjunct to the breakfast-table in a country house in which there is a large company assembled for the shooting.

Peacocks' tail-feathers, turkeys', or, in fact, any long and supple feathers, can be made into useful and ornamental feather brushes, large or small, according to the materials at hand. The size of the handle also must depend upon whether the feathers are long or short. The stick should be quite an inexpensive one of plain turned wood, but for convenience' sake should become gradually thicker towards one end. The feathers must be taken singly and laid against the stick about an inch from the lower end, and of course they project for almost their entire length beyond the end of the stick. Each feather is kept in place by fine twine, which is twisted as tightly as possible round feather and stick as each one is laid on. The shafts must be put so close together that they touch, but do not overlap. When the end of the stick is entirely covered with feathers, the twine must be thickly overlaid with glue, and allowed to get perfectly dry before the next row is put on. This must be placed about an inch higher up the stick, then a third row, and if the brush is required very full, and the number of feathers will allow, a fourth row is laid on, each set of feathers being strengthened with glue before the next is arranged. The appearance of the brush is next tidied by a cap, which is placed so as to hide the shafts of the last row of plumes. A piece of crimson velvet is as good a material as any for this, but morocco or ordinary leather will answer nearly as well if more convenient. The material is cut in this shape



—the narrow end being only long enough to fit round the stick just at the end of the shafts of the feathers, and deep enough to allow of the broader end fitting round the broom where the first row of feathers was put on. A quarter of an inch must be allowed over at each side to permit of a seam. Cut the lower and broader edge into tiny

points, then stitch the two sides of the velvet together on the wrong side. Turn the cap inside out, and pass the handle of the broom through the broad end. Draw the cap down the stick as far as the feathers will allow it to go, and fasten it on the wrong side with a few touches of glue. These will, however, scarcely be needed if the cap fits perfectly.

the hair or dress, of white and coloured feathers, has shown signs of reappearing of late. They certainly have the advantage of being light and delicate in appearance, but it is very important that they should be made and modelled as carefully as possible. Those ladies who have a practical knowledge of the art of mounting and arranging arti-

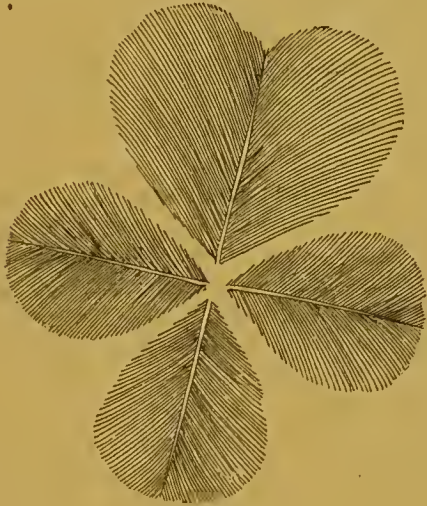


Fig. 13.

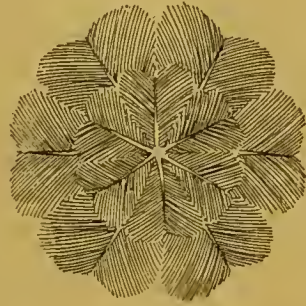


Fig. 15.



Fig. 14.



Fig. 16.

Add a band of ornamental gimp or gold braid to the upper edge of the velvet, sewing the ends down neatly with invisible stitches or fancy nails.

When small dusting-brushes are being made, it is often advisable to use very gaily-tinted feathers, and to tie up the handles smartly with loops and ends of ribbon. The little broom is then not unsightly if left about in the room; or it may be fitted into a gay ornamental case, of which there are so many tasteful kinds to be made.

Feather Sprays and Trimmings.—The fashion for making up floral sprays, to be worn in

ficial flowers should have no difficulty in managing the feather ones. The feathers must first of all be lightly painted on the wrong side with gum, and allowed to dry before they are used. The reason for this has already been given. The best way to get the blossoms a good shape is to pull a natural flower to pieces, and to use it as a model by which to cut the artificial petals. Where this is not possible, a good representation must be selected from which to copy. As there are bounds and limits to the curves which a feather may be induced to take, the flowers chosen should be those of a somewhat formal type, such as scarlet pelargoniums or tulips;

white camellias, too, with the closely-folded centre petals, can be admirably well imitated in feathers. The materials required are for the most part the same as for artificial flower-making, and comprise fine wire, green sewing silk, green China ribbon, cotton-wool, gum, and a sharp pair of scissors. The calyx, stamens, and pistil of most flowers may be had from an artificial flower manufacturer. The feathers are first cut into the required shape, then fastened singly to one end of a piece of wire and bound round with the green sewing silk, much in the way already described for a feather broom, but on a far smaller scale. The sewing silk is strengthened with gum, to keep it from slipping, and the feathers are then bent back and curved into the shapes required. In many flowers the pistil and stamens must be fastened to the wire before the petals are placed; in others, the centre of the flower is formed by a cluster of tiny feathers bent so that they overlap each other in the centre. This is more especially the case with the camellia. When all the petals are thus fastened, the calyx must be put on. This is either made of small feathers attached in the same way as the petals, or an artificial calyx is slipped up the stem, and held there by a tiny knob made by winding the silk very closely round the ends of the shafts of the feathers. The silk is then wound round the rest of the wire stem, and the flower is finished. In Fig. 13 are shown the shapes into which the feathers must be cut to fashion a pansy: a marguerite is given in Fig. 14; and a small double flower, such as a ranunculus, in Fig. 15. The buds are made by fixing a tuft of cotton-wool to the end of a piece of wire, and by fastening on sufficient tiny feathers to cover it entirely. The calyx is attached in the same way as in the flower to which the buds belong. Leaves are cut out in green feathers, and are mounted upon a short stalk of wire. A pinnate leaf is shown in Fig. 16. The flowers, when a sufficient number has been made, are mounted on a wire stem. The stalks of the flowers, leaves, and buds, are taken one by one as required, are laid alongside the central stem, and bound round with the narrow green ribbon. This enables the spray to be bent to any shape in which it may be most convenient when required for use.

Feather trimmings and boas are quite easy to make. The former are usually mounted on a length of broad black or white tape, according to the colour of the feathers. They more or less consist of a flat band of feathers arranged in twos and threes alternately across the width of the tape, the feathers in each row of course coming between those of the preceding one. The shafts should be as far as possible pointed towards the middle of the tape. Boas are made up very much in the same way as these trimmings. If

the boas are to be flat, two bands of the trimmings just described must be laid back to back, and sewn together down the edges. Care must be taken to make all the feathers point in the same direction; in the middle of the boa they must be reversed, so that they rest in the same direction on each side of the figure when the boa is in wear. Round boas are made of a broader piece of trimming, the edges of which are sewn together round a roll of wadding. By tracing the shape out in stiff muslin, and stretching it in a frame, very elegant collarettes and capes can be made entirely of tiny feathers laid one over another in a sort of fish-scale arrangement. Though they can scarcely rival in beauty or rarity the famous imperial cloak that belonged to the late Lady Brassey, they will make warm and pretty adjuncts to a winter toilet. They require lining with satin thinly quilted, and interlining with flannel. By managing the foundation properly, any shape of wrap may be made in this way, according to what is fashionable at the time.

Hat and bonnet shapes are often very successfully covered with small feathers, which are, as usual, sewn on separately. On the brim they are arranged in rows, on the crown in circles. The feathers must be liberally used, especially on the crown, as a shabby genteel look is not desirable, and will certainly be given to the millinery should the feathers get blown aside, and the net foundation displayed.

If only a few feathers should be left after a large piece of work, they may without much trouble be mounted as a wing for a travelling-hat. A piece of wire is first taken and bent into the required shape, then covered with a piece of soft muslin. Over this is laid a thick padding of cotton-wool, which is covered in its turn with a second piece of muslin. The feathers are then sewn on in as good an imitation of a bird's wing as can be managed, the quill feathers being placed towards the top of the muslin foundation, the smaller ones graduated in size as they reach the bottom. They must overlap thoroughly in each row, and the stitches taken through the muslin only, or the padded shape will soon become flattened.

Those who are fortunate enough to be able to study the beautiful specimens of foreign feather work preserved in some of our museums, will soon be able to invent for themselves pretty things to be made of plumage besides those which have been detailed here. In feather work, as in all other homely arts, it should be remembered that neat and conscientious workmanship is, if possible, more essential to a good result than in those cases in which the materials are costly in themselves, and so cannot fail to present a good appearance even under the most adverse circumstances.

GARDENING FOR FEBRUARY.

Pruning Deciduous Shrubs and Trees.—

If the weather is at all favourable for this work, it, should be proceeded with. There is a great advantage in getting it done thus early in the year, before the dormant buds commence to show signs of activity. By so doing there will be more energy concentrated in the otherwise latent buds at an earlier stage, without that waste of vital powers which would be sure to develop itself in the extreme growths of the plants, which it is most desirous in many cases to remove in order to keep them well within bounds. It is much better to see to this work at this season of the year than later on, when they have become re clothed in foliage. Their size is not so apparent to a casual observer when they are not in leaf, and thus it often happens that the work of pruning is not done at the proper season, the necessity only becoming observable when their growth is going on in earnest. When done at the latter period, a later growth is frequently made, which has not an opportunity of becoming ripened to withstand the rigours of the coming winter.

Pruning trees or shrubs whilst denuded of their leaves has in it another advantage, in not being so much missed. A greater space is at times given to a shrub, by reason of its attractiveness in its season, and a reluctance to minimise this; there will, however, come a time when it *must* be kept within bounds. This, if done in the winter season, will not create that feeling of loss or of comparative bareness for the time being. Lilacs, always appreciated when in flower, could for years be kept within reasonable bounds if moderately pruned every season, removing the growths which show a disposition to extend themselves too far from home. Many other shrubs could be treated in a like manner, also the trees of medium growth, such as the Siberian and Chinese Crabs, which make a fine show when in flower. The Mock Orange (*Syringa sp.*) is a shrub greatly improved by annual pruning, otherwise it is liable to get beyond its bounds.

When any wood of extra size is removed, it is a good plan to have a paint-brush at hand with some green paint, just to touch up the end from which the shoot has been removed, in order that it should not look so unsightly. In all descriptions of pruning care should be exercised to make clean cuts, whether done with a knife, pruning-scissors, or a small saw.

Pruning Climbing Roses.—These should now receive attention, and be completed before the month closes, if the weather permits. A knowledge

of the kinds and their various modes of growth and flowering is necessary in order to perform this work in the most satisfactory manner. Some varieties will flower from year to year by spur-pruning, whilst others succeed best by thinning out the weaker wood and retaining all the stronger growth for which there is available space. The latter mode of treatment is, however, the most general, and can in most cases be relied on to produce good crops of bloom. Take the well-known Gloire de Dijon, for instance. This fine old rose produces strong shoots when in a thriving condition, and it would be a sacrifice to remove these; they may require shortening one-third or so of their length in order to obtain a good back break, but no more. As many as possible of such growths should be retained from year to year, and the weakest and most exhausted wood removed. Climbing roses of the smaller-flowered kinds, which grow luxuriantly, should have every encouragement given them by extension; almost, in fact, left to their own sweet will where they are covering arches, old walls, or pillars. Thus treated they are a grand feature when in flower, and only need thinning out of the weakly wood once in two or three years.

Edging Paths and Grass Verges.—This work needs to be done every few years, and, when necessary to be done, should be attended to thus early in the year. The edging-knife should cut well to perform this work in an easy manner; and in order to obtain a true edge, it is best to use the garden-line. Only just sufficient turf should be removed to obtain a clean cut, and when that is finished, everything should be left clean and tidy before rain sets in.

Repairs to Turf, &c.—This will require to be seen to in some places where becoming bare—such places, for instance, as around the stems of trees, shaded spots, or narrow verges. When this work is done early, the fresh turf has a chance of becoming well rooted before drier weather sets in. More care will be needed later on in mowing such spots, and for the first few times it had better be done with a scythe. Some places become worn, and most unsightly at times, by the practice of walking across the turf to cut off a corner, or from other causes. This should be avoided as much as possible; and when a spot is noticed in this manner, a few sticks should be bent over it to prevent future encroachment thereon. No mowing, either with scythe or mowing-machine, should yet be attempted. If a frost should follow quickly after the grass is mown,

the lawn will assume a brown appearance consequent on the early mowing.

Hardy Plants in the Open Ground.—

Amongst these there are some kinds that are more susceptible to damp than others—the Forget-me-nots (*Myosotis sp.*), the common Primrose, and other types of the *Primula* family, for instance. Every opportunity should be taken of removing dead and decaying foliage from around each plant, in order to prevent this damping-off of the otherwise fresh leaves from spreading further than possible. Slugs often take refuge around these plants, but will in many cases be removed with the old foliage, and their haunts disturbed.

Carnations and Pinks are frequently injured at this early season of the year by the depredations of birds, chiefly sparrows, who nibble off the points of the leaves, and eventually a greater portion of them, if not disturbed. The plants are therefore weakened to a considerable extent, as well as spoilt in appearance for weeks to come, and in bad cases looking very ragged indeed. The most effectual remedy is to protect the plants with light netting. Failing this, some nostrum should be employed. For this purpose soot may be used to a moderate extent with safety, at the same time being beneficial to the plants as a manure. A more cleanly manner of procedure is to obtain a common pepper-box, and lightly dust the plants with black pepper or tobacco-powder when the plants are somewhat moistened by a morning dew. Carnations and Pinks that have been thus far wintered under glass in a cold frame may, towards the end of the month, be planted in the open border. A position should be chosen for these plants where they will get a fair amount of sunshine, or there will be a preponderance of growth in foliage and a diminution of flower-spikes later on. The ground should be dug deeply some two or three weeks previously, after some well-decomposed manure, with a liberal dressing of lime and soot, has been spread over the surface. The ground should be in a fairly dry state at the time of planting, sufficiently so for it to be trod over moderately with the foot beforehand. In planting, the ball of soil adhering to the plant should be covered about two inches with the fresh soil, at the same time pressing it down firmly around the plant. When all is completed, a good watering should be given to settle the soil and to induce fresh root-action at once. The lime and soot, as previously recommended, should be used more strongly if there is any suspicion of wireworm existing in the soil, this insect being an enemy to successful culture. The shell-snails are also at times very troublesome; hand-picking and a light dusting of slaked limo will, however, keep them well under.

Box Edging.—Should this be of extra size and thickness it had better be taken up and relaid towards the end of the month. When kept in good condition and frequently clipped, it is the best kind of edging there is for a garden. Replanting should be done once in every six or seven years, according to its size. A good quantity, if not all, should be taken up at the commencement and laid in closely together to keep the roots from injury by exposure. When this has been done, the ground should be prepared to receive it by digging out a trench—on the *ground* and not on the *path* side, if it be a walk. A line is needed as a guide for the operator to work by to keep the edge true; the side next the path should be upright, and the box when prepared should be placed against this edge, after which the soil should be put back in its place again in a firm manner. At the completion of this work a good watering should be given, and repeated at intervals afterwards as may be necessary, according to the state of the weather. Before the box is replanted, it will need to be gone over and properly prepared. Some tufts will be thicker than others; these should be divided so as to make all of equal size. It will in nearly every case need to be shortened at the root; this can easily be done with either a knife or a chopper; the latter is to be preferred, as the operation is done more effectually. The top will, after planting, need to be clipped moderately, but it must be done in a careful manner, to obtain a uniform edging throughout. Box edging, if only requiring to be clipped and not transplanted, should be left till later on in the spring, or a too early growth will be induced when no corresponding check has been given to the roots.

Snowdrops and Crocuses.—These harbingers of spring will soon be making a display; the former become a prey to slugs if these pests are not kept in check by a slight use of the means previously advised; the latter flower is often partially spoilt by attacks made upon the buds prior to and just as they are opening. On examination it will be found that the flowers are nearly, if not quite, nipped in two. We suspect the sparrow again in this instance: the use of the pepper-box will, however, prevent much harm being done if taken in time, and is a simple remedy.

The Gladioli are a fine race of bulbous plants worthy of a place in the smallest garden; they can be obtained at a cheap rate and of good quality. *G. Brenchleyensis* is not only one of the best kinds, but it is one of the cheapest; its spikes of vermilion-scarlet flowers are a fine sight; *G. Penelope*, white and pink; *G. Vista*, pure white with carmine blotch;

G. Non plus ultra, red, flaked white; *G. Queen Victoria*, scarlet and white; and *G. Byzantinus*, rosy purple, are six reliable kinds. If not already obtained, an early opportunity should be taken of securing them before the best bulbs are caught up. Towards the end of the month they should be planted in rich soil, where they are to remain; make a hole for each bulb with a trowel at least six inches deep, and cover with fine soil. Anemones should also be planted now, but not quite so deeply as the Gladioli; three roots may be placed triangularly in the same hole a little way apart. *A. fulgens*, with dazzling scarlet flowers, is the earliest to open its blossoms; *A. Japonica alba*, pure white, flowers in the autumn; to these we would add the single "French Giant Poppy" Anemone for the early summer months. Ranunculi are well worthy of cultivation, being exceedingly showy; the "Turban," in several colours, is the best kind. Irises are a fine race of semi-bulbous plants of hardy constitution; those known as "German" Irises are among the best and most durable; these, too, should be planted as soon as possible in a somewhat moist position.

List of Flower Seeds for Beds and Borders, and Hardy Annuals.—The following should be sown in the open air during March, when the weather is favourable. In order, however, that they may be then in readiness, we append the list in advance:—*Alyssum maritimum* (Sweet Alyssum), white. *Asters*: These are to be had in such variety that it is puzzling what to choose if not well acquainted with them. The following are reliable kinds: "Truffant's Improved Pæony Perfection," with very fine flowers, height 18 inches to 2 feet; "Victoria," one of the most showy kinds, with reflexed flowers, strong grower, 2 feet; "Dwarf Chrysanthemum Flowered," suitable for edgings and beds, 1 foot; "Dwarf Bouquet," a beautiful miniature variety producing a quantity of flowers on each plant, 9 inches; "Triumph," flowers a deep scarlet, one of the best for grouping together, a fine new kind, 8 inches; "Diadem," a new type of Aster of pyramidal growth, flowers white with rosy-crimson centres, very useful for cutting for bouquets and vases, 1 foot. *Calendula* (Cape Marigold), an annual of easy culture, thriving in situations where many plants will not grow, and also well suited for planting between shrubs; *C. pluvialis* has white flowers; *C. officinalis Meteor*, lemon-yellow with silvery stripes; *C. off. Prince of Orange*, rich orange colour. *Calliopsis astrosanguinea*, dark crimson; *C. coronata*, large yellow flowers spotted crimson; *C. marmorata nana*, yellow; *C. tinctoria*, bright yellow. The foregoing are also known under the name of *Coreopsis*; they are most profuse bloomers, continuing in flower till

the frost destroys their beauty, and are likewise very easily grown. Candytuft in various colours, "carmine," "dark crimson," "lilac," and "sweet-scented white," with a newer kind, of dwarf habit, called "dwarf hybrid rose," are good and distinct kinds; the colours should be got separate, to secure a better arrangement; mixed seeds should in nearly every case be avoided. *Cannabis gigantea*, the Giant Hemp, is a fine plant for growing between shrubs when there is room to spare, or for sowing where a shrub has died and the space is needed to be filled up, height 6 feet. *Clarkia pulchella*, dark rose, and *C. p. alba* are two good annuals. *Convolvulus major*, various coloured climbers, and *C. minor*, a dwarf-growing variety for beds and masses with diverse coloured flowers, are the best of their class; they thrive well in a sunny position. *Centaurea cyanus* (the cornflower), a very hardy and free-blooming annual of various shades of colour. *Dahlias*, single kinds in various colours. It is not often perhaps that these are treated as annuals, especially for the seed to be sown in the open air; yet it can be done, and good crops of flower obtained the first season. We have had abundant proof of this; a warm sunny border is all that is necessary to ensure success with seed sown in April. *Dianthus chinensis* (the Indian Pink) is a beautiful free-flowering plant with double flowers. *Echecholtzia californica*, clear yellow, and *E. Mandarin*, orange-scarlet, are two annuals of rapid growth; they need to be grown in the full sun in order to display their beauty to perfection. *Godetia Duchess of Albany*, satin-white; *G. Princess of Wales*, ruby-crimson; and *G. The Bride*, white and carmine, are the best of their class, making a fine display when in flower. *Gypsophila elegans*, a very light and graceful annual, being excellent for arranging in vases with larger flowers. Larkspur, dwarf-rocket, a fine type of this well-known plant with large spikes of bloom. *Leptosiphon aureus*, golden-yellow, and *L. roseus*, bright rose, are two annuals of very dwarf and compact growth, being most suitable for edgings to shrubbery borders. The two could be sown in rows, placing the last-named kind in the front of the former. *Linum grandiflorum coecineum*, a most profuse flowering annual with bright scarlet blossoms, height eighteen inches. Marigold African "lemon" and "orange," two fine kinds, with Veitch's selected striped French, are the best of their class; sow in April. Mignonette is well known; of late years, however, there has been a considerable improvement in the varieties grown; Crimson King, Golden Queen, and Garaway's white, are three capital kinds to grow. *Nasturtium* (Crystal Palace Gem) is one of the best of its class as a climber, and flowers throughout a prolonged season; there are also many dwarf kinds,

which when they are in flower make a fine display, but do not last in that state any great length of time; they are *not* to be recommended for gardens of medium size. *Nemophila insignis*, a very showy hardy annual with bright blue flowers and clear white centres, deserves to be grown more than it is. *Enothera bistorta veitchii*, yellow spotted with crimson (a form of the evening primrose). Sweet Peas, mixed colours, make a fine background to a flower border, or can be sown in clumps. *Phacelia campanularia*, deep blue and dwarf habit, a fine annual. Poppies are of easy growth, flowering freely, and well suited for dotting between dwarf shrubs. The best are—the Peacock poppy (*Papaver pavonium*), flowers scarlet and black; the Iceland poppy (*P. nudicaule*) in three colours—clear yellow, pure white, and orange-scarlet (this is a dwarf variety, and continuous bloomer). Another type of poppies with most diverse coloured and striped flowers is just coming into favourable notice, and bids fair to become very popular, being of hardy constitution, as well as flowering most profusely; they are designated the “Shirley” poppies, and can be easily had in small packets. *Saponaria calabrica*, with star-like flowers, bright pink in colour, is a useful annual, lasting a long time in flower. Scabious, dwarf double, is the best of its family, being a profuse autumn bloomer; it can be had in eight distinct colours.

Stocks find a place in most gardens, and are deservedly popular; the best are the “large flowering German Ten-week,” in twelve colours; the “East Lothian,” a splendid stock, forming a fine succession to the first-named, in four colours; and the “large flowering Emperor,” in eight colours. Where there is room a few sunflowers should be grown. The best are—*Uniflorus*, one of the largest singles; *Globosus fistulosus*, a splendid double kind; and the “New Miniature,” a dwarf and profuse blooming variety, very useful for cutting purposes.

The following annuals should be grown, not only for their excellent appearance when in flower in the garden, but because of their lasting properties, being generally termed “everlasting flowers.” They should (when intended for drying) be gathered with their first beauty upon them, and suspended in a dry place till the flower-stems become dried and stiff, and eventually used in flower-vases during the winter months with ornamental grasses. The best are—*Acerolinium roscum*, both single and double kinds; and *A. album*, also in two forms. *Helichrysum bracteatum*, yellow, and *H. mastrosom*, in ten varieties, from pure white to dark crimson—these are among the best to grow. *Rhodanthe maculata* is another excellent kind; it can be had in three shades of

colour—bright pink, deep crimson, and silvery white. The *Rhodanthe* succeeds best on a warm sunny border and moderately dry soil.

Of ornamental grasses to associate with the foregoing everlasting flowers the following are six of the best and most distinct kinds, viz.:—*Agrostis nebulosa*, *A. pulchella*, *Briza maxima*, *B. gracilis*, *Lagurus ovatus*, and *Eragrostis elegans*. To these should be added the feather-grass, *Stipa pennata*, but it will not flower until the second year, and is not therefore termed an annual.

Flower Seeds to be Sown for Flowering next Season.—Besides the foregoing annuals, which flower the same year as sown, there are some few other plants which can be easily and cheaply raised from seed. They require to be sown somewhat later than the annuals—say, the end of April or early in May; but this is the month for making out lists and determining what shall be done. We recommend the following kinds, all of which produce a good display early in the spring onwards, until the summer bedding-plants are ready to take their places:—*Alyssum saxatile compactum* (yellow), suited for rock-work when large enough to plant thereon with safety; *Collinsia verna* (blue and white), flowers early; *Iberis sempervirens* (pure white), very free flowering. *Myosotis* (Forget-me-nots) are easily raised from seed; *M. alpestris Victoria* is a beautiful early-flowering and most compact variety; *M. dissitiflora* (a rich blue), one of the best, and its white form, *M. dissitiflora alba*, which is a capital companion to the others. *Polyanthus* raised from seed one spring will flower the next, but better still the following year. (Seed can be had of the “gold-laced,” which are beautiful varieties, and also of the self-coloured forms in white, yellow, dark crimson, and magenta, each colour separate; they are all useful for early flowering, as well as of easy culture.) To these should be added the splendid kinds of the common Primrose in rich and varied colours; of these “Dean’s Strain” is the best.

Pansies are another race of plants that are most useful early in the year; the best to grow are Cliveden Purple, Cliveden Yellow, and Cliveden White, when distinct colours for grouping are required; the large-flowered “English or Show-pansy,” and the “Belgian,” afford an almost endless variety when raised from seed. *Silene pendula compacta*, with rosy-pink flowers, associates well with the foregoing, or with the Forget-me-nots: it should not be sown before the end of July, to flower the next spring. Wallflowers complete this list of plants for filling the flower-beds and borders when the frost has destroyed the tender plants in the autumn: the best kinds are Veitch’s “Dwarf Dark” and “Selected

Yellow." Golden Tom Thumb is the dwarfiest yellow, and Harbinger is one of the earliest to flower.

The following plants can be raised from seed at the same time, but will not flower soon enough to make room for summer bedding-plants; they are best suited for margins of shrubberies, where they can remain for two years or so undisturbed. *Antirrhinums* are easily grown, and flower freely thus treated; the "Tom Thumb" type is the best. *Campanulas* (Canterbury Bells) are a hardy race of plants; *C. Calycanthema* (mixed colours) and the common form of Canterbury Bells are the finest.

Carnations and Pinks can likewise be raised from seed; in fact, it is one of the best ways of obtaining a stock. They are best raised under glass if possible, to ensure a quicker germination. Delphiniums are noble-looking plants when in flower, and can be obtained in various shades of colour from one packet of seed. The Foxglove, or *Digitalis*, is an excellent hardy plant for the margins of shrubs; a packet of the "spotted" varieties would produce an abundant stock. Gaillardias are a race of half-hardy plants which in many a warm spot might survive our winters, and flower well. *Ferula gigantea* (the Giant Fennel) is a noble plant, seed of which should be sown where it is intended to remain; it grows four or five feet high. *Lathyrus latifolius*, or the "Everlasting Pea," is a useful plant for trailing over rustic work, or can be grown against a wall. *Lobelia cardinalis fulgens*, or the "Cardinal Flower," is a splendid object; it should be raised under glass, and planted out when of fair size in a warm corner, where it will survive all but the severest of winters in the South of England. The *Mimuli* (or "Monkey Flower," as the large flowering varieties are called) are plants of great interest; the "spotted" varieties are the best to obtain. *Oxalis purpurea* has dark bronze foliage and deep yellow flowers; it is a capital margin to rockwork or narrow borders. Sweet Williams are a hardy race of plants, which flower well, and last at least two seasons if well cared for. Where this last section of plants are cultivated, there will not be that need of tender bedding-plants to such an extent; they are well suited to those cultivators who have no glass-house at their disposal, and who may possibly possess a cold frame in which to nurse young plants.

Tender Annuals for Bedding.—These require a little heat to raise them in a satisfactory manner; if, however, they can be managed with a fair expectation of good results, a considerable saving will be effected. *Acaea lophantha* is a foliage plant of elegant appearance, looking well in the centre of a bed. Dahlias, Pompons, or small-flowered double kinds, are most useful, and better than the larger

ones for small gardens. Golden Feather (*Pyrethrum aureum*) is readily raised, and always handy as an edging. *Lobelia speciosa* is the blue variety so much used in a similar way, and in association with the Golden Feather. Petunias are capital bedding-plants; *P. grandiflora*, and its double form, are amongst the best kinds to cultivate. *Phlox Drummondii* in great variety are excellent bedding-plants, which cover a large space of ground during the season. *Salvia patens*, with its bright blue flowers, is worthy of a place in mixed borders. *Tagetes signata pumila* has bright golden flowers and miniature finely-cut foliage; it is one of the best annuals for bedding purposes. *Zinnia elegans*, double and single, are fine plants for the background of wide borders.

The foregoing lists of flower seeds for the open air are framed from practical experience, and given in every confidence. The seed catalogues issued by the nursery trade are invariably so lengthened, and in many cases so perplexing to any one who is not intimately acquainted with gardening, that the lists herewith given will greatly assist the ordinary reader, and be far preferable to buying the "Collections" of flower seeds specially made up. The latter might possibly be a trifle the cheapest, but not so satisfactory in the end.

Grapes.—We must confine these remarks chiefly to the preparation of soils and borders, the best kinds to plant, and the planting of the vines, feeling persuaded that many a lover of his garden may, without any extraordinary expenditure of time or money, cultivate a few grapes, and be thus able to sit under his own vine, if not under his own fig-tree. There are many glass-houses now to be seen erected in villa gardens throughout the suburban districts up and down the country. It does not always happen that these are turned to the best account for producing a return, whether it be of flowers or fruit. Of the latter, nothing can be compared to the vine, either for productiveness, rapidity of growth, or the ease with which it may be grown when its cultivation is somewhat understood. The following instructions are intended for those owners and occupiers who take a delight in looking after their own productions themselves, and not for the practical gardener.

In order to succeed fairly well, it is not necessary to go to any considerable expense in the formation of the border in which vines are to be planted. If the garden is a new one, and the soil adapted for the cultivation of shrubs and roses, then there is not much to fear in respect to the vine thriving therein. A guide in this matter can be often obtained by close observation of the growth of trees and shrubs in the immediate locality; perhaps some vines even

can be seen near at hand, and the soil in which they are growing compared with that at command. Where the soil is a light loam with a tendency to a peaty nature, some stiffer loam should if possible be added to it. If the case is that of an old garden, or the position one on which shrubs have previously been grown, so as to impoverish the soil, some fresh loam and decomposed farmyard or stable manure should be added. This—and, in fact, the soil in any case—should be dug over deeply (at least two feet deep), and the additions as recommended be well incorporated therewith. Whilst this is being done, note should be taken of the condition of the ground as to any need of drainage. If the ground be contiguous to or at no great distance from a lower level, then there will not be much to fear in this respect; nor will there on the level, if the subsoil be gravel. Where, however, the subsoil is clay, some drain-pipes should be laid at the bottom of the border. This latter should slope from the house outwards, and have some coarse rubble laid on the same with drains at intervals and along the bottom. Care must be taken to provide an outlet for the drains on a lower level, with sufficient fall to keep the pipes under the border at all times clear. Where the cultivation of the vine is contemplated, this work should be seen to at once, in order to be ready for planting the canes during next month, when signs of growth are apparent. In the meantime the newly-prepared soil will have had time to settle down after the digging; and if the house requires painting inside, that too might with considerable advantage be done now.

The young vines should be planted in March, four feet apart; and only one rod, at that distance between each other, should be allowed. It is a frequent and a serious oversight to train up young rods more thickly than here advised; they are at times seen at two feet only between each other. This is a fatal mistake to make; the extra growth over such a limited space precludes the proper circulation of air, and the consequent ripening of the wood, on which, to a great extent, depends the crop of the future season. If at any future time one or more vines show a tendency to grow more luxuriantly than the others, those of more weakly growth should be cut out, and young rods of the more robust vines trained in the place thereof. The foregoing error in planting, combined with that of over-cropping the vines, are the most frequent sources of failure. It often costs the grower a struggle to cut off so many bunches, yet it must be done to attain the desired end. There should be a clear space of eighteen inches between every bunch of moderate size, to ensure them ripening to perfection.

When the time of planting arrives, the young

vines should be carefully shaken out of the soil in which they have been growing—preserving, and at the same time disentangling, the roots. After this has been done, the roots should be dipped into a pail of tepid water; then spread out carefully on the soil prepared to receive them, over which some of the finer portions should at first be sifted; and then covered with the ordinary soil to a depth of four inches; afterwards a good watering should be given. When the growth commences, the shoots should gradually be thinned down till the strongest one only is left; and if this is within two feet of the base, so much the better.

The best kinds to plant are Black Hamburg, a well-tried and standard kind; and Black Alicante to succeed it. The most reliable white grapes are Foster's Seedling and Royal Muscadine. The foregoing will succeed in an ordinary small greenhouse, provided care be taken to keep down atmospheric moisture when the young shoots commence to grow; otherwise they might damp-off during a period of rainy weather. The house should be closed early in the afternoon in the spring whilst the sun shines, to encourage the young growth. Further notes will be given from month to month during the season as occasion may require. It only now remains to say that existing vines, if so far left unpruned, should at once have that necessary work attended to before the sap rises. If hitherto the spurs from which the growth of previous years has been emitted are, as is often the case, left too closely together, they should now be thinned out, so as not to be any closer than one foot from spur to spur.

Tomatoes in Pots and for the Open Air.

—The tomato has come rapidly to the front of late years, and its culture has developed to a great extent. It is undoubtedly an excellent fruit, and one strongly to be recommended, being of easy cultivation, and not at all fastidious as to the soil in which it is grown. The essential points to be observed are the selection of the warmest and, consequently, the most sunny spot that can be chosen in the garden when grown in the open air, and a liberal supply of water in dry weather, until the fruit shows signs of colouring. They should be planted, if against a wall, at about fifteen or a few more inches apart, and trained perpendicularly, one shoot only to each plant. Side-shoots should be persistently removed, to encourage and concentrate vigour in the leading growth. If grown on a warm border, they should be planted at about two feet from one to the other each way, still keeping to the one shoot, which will require the support of a strong stake as a safeguard against injury from wind.

When grown under glass, the same rule of adhering

to the one shoot holds good, unless there is more room than usual at disposal. When well established for fruiting, in pots of not less than one foot in diameter, abundant supplies of water will be required—probably two or three times daily.

Both indoors and out the tomato is disposed to develop too much leafage. In order to remedy this, a portion of each leaf may be removed sufficiently to expose the young fruits to the sun and air. If too great an amount of woody growth is encouraged, the flowers will fail to become fertilised, resulting in the total loss of, or at the least a later, crop. Too rich a soil will also be productive of failure, and should therefore be guarded against. When autumn frosts are expected, the whole crop of outdoor plants should be cut and ripened in a warm place—not too warm, or they will shrivel up.

Seed should be sown about the middle of February for the coming season in a slight warmth; failing the latter, it had better be postponed till early in March. When the young seedlings are in their first rough leaves, and before they become drawn, they should be pricked off a few inches apart in a pot or pan, later on to be potted singly in small pots. (For best kinds to grow, see list of seeds in next chapter.)

Solanums.—The berry-bearing Solanums (*Solanum capsicastrum*) are exceedingly useful and showy, as well as accommodating in respect to the position they occupy and the treatment they require. They are best grown from cuttings struck early in the year, and grown on from year to year for three or four years, being then supplanted with a younger stock. The first fifteen months they are best kept in pots of moderate size, afterwards they are better grown in the open ground during the summer. In the spring, when no longer needed to decorate the house, they should be pruned rather hard; and, after a hardening-off, by the end of May they can be planted out in any common garden-soil. After a good crop of berries is set, the shoots should all be pinched back to the berries; this will expose the latter, and aid them to swell up and ripen. By the end of September they should be potted up, and removed, under cover, in a close pit or frame for a few weeks till partially established. Soil—good loam, leaf-mould, and sand. This Solanum can also be raised from seed, which can easily be obtained by purchasing a plant with the ripe berries upon it; it is best to choose a plant of dwarf habit and highly-coloured fruit.

Rockwork in the Greenhouse.—The earlier period of the year is the best time to choose for any contemplated alterations to the interior of glass-houses; the same arrangement from year to year

becomes in the end monotonous and lacking in interest. Where no rockwork has been hitherto attempted we recommend its consideration to the favourable notice of our readers; it is especially suited to a damp corner, or a spot more shaded than ordinary. The construction, as recommended in a previous article for out of doors, could be followed; where, however, the work is more upright than usual, advantage should be taken of the wall, by building into brickwork or by driving into it some stout hold-fasts, filling in all intervening spaces, as the work proceeds, with good soil. Ferns should compose the chief of the plants selected. The fine-foliaged kinds of Begonias produce a splendid effect, and are strongly recommended; they thrive well in a moderately cool house, and require but little soil wherein to grow them, otherwise they will become too luxuriant. As a groundwork to the ferns, Begonias, and other plants, some *Lycopodium* (*Selaginella*) *denticulatum* could be pricked into the soil afterwards. If a damp wall otherwise unsightly exists, and there is not room enough for rockwork, *Ficus repens* is a capital evergreen climber wherewith to cover it. This climbing member of the Fig family is of rapid growth and compact miniature foliage, and very accommodating as to its position; no fruit must, however, be expected from it.

The following kinds of ferns will succeed well in a cool or temperate house, and be adapted either for pot-culture or for the rockwork just alluded to:—*Adiantum affine*, *A. capillus veneris* (the British Maidenhair), *A. cuneatum*, *A. formosum*, *A. pubescens*, *A. venustum*, *A. pedatum*; *Alsophila australis*; *Asplenium bulbiferum*, *A. caudatum*, *A. divaricatum*, *A. flaccidum*, *A. lucidum*, *A. palmatum*; *Cyathea dealbata*; *Cyrtomium falcatum*; *Davallia canariensis*, *D. Mariesii*, *D. pyxidata*, *D. tenuifolia striata*; *Dicksonia antarctica*; *Doodia blechnoides*, *D. caudata*; *Gleichenias*, various species, but requiring very careful culture; *Hypolepsis distans*, *H. repens*; *Lastrea aristata*, *L. elegans*, *L. Sieboldii*, *L. Standishii*, *L. decomposita*, *L. fragrans*; *Leucostegia immersa*; *Lomaria blechnoides*, *L. chilensis*, *L. falcata*, *L. gibba*, *L. lanceolata*; *Lygodium japonicum*, *L. palmatum* (two good climbing ferns); *Microlepia hirta cristata*; *Nephrodium molle*, *N. m. corymbiferum*, *N. tuberosa*, *N. exaltata*; *Niphobolus lingua*; *Onychium japonicum*; *Platyceerium alcorni*; *Platyloma falcatum*; *Polypodium effusum*, *P. plumosum*; *Polystichum capense*, *P. setosum*; *Pteris argyræa*, *P. cretica*, *P. e. albo-lineata*, *P. longifolia*, *P. scaberula*, *P. semipinnata*, *P. serrulata*, *P. s. cristata*, *P. tremula*, *P. umbrosa*, *P. undulata*, *P. hastata*; *Woodwardia radicans*, *W. orientalis*.

For a Wardian case, i.e., a case to stand in a sitting-room or in a glass-house, but kept nearly without any air being admitted, by reason of the

plants recommended requiring an excess of atmospheric moisture, the following are all good kinds ; in fact, they are the best to grow under such conditions that can be chosen with a possibility of successful cultivation, viz. :—*Todea pellucida*, *T. superba*, *T. Wilkesiana*, *Trichomanes radicans*, *T. reniforme* ; *Hymenophyllum Tunbridgense*, *H. Wilsonii*.

The following mosses are all useful in combination with ferns, and likewise of easy culture :—*Selaginella denticulata*, *S. japonica*, *S. Martensii*, *S. Wildenovii*, *S. chinensis*, *S. stolonifera*. Of ornamental-leaved Begonias we select *B. Hélène Uhder*, *B. Marshalli*, *B. Pearceii*, *B. Rex*, *B. Manuel da Silva Brusky*, and *B. Zenobia*. The variegated grass *Panicum variegatum* is a capital plant, of creeping habit, for a temperate house, and forms a good groundwork to other plants. The creeping saxifrage, *Saxifraga sarmentosa*, or Mother of Thousands, is another good plant for rockwork, and easily grown. *Ophiopogon jaburan variegata*, a plant of grass-like growth, associated well with ferns, &c., on rockwork, and is suited to a cool house. *Isolepis gracilis*, a plant of grass-like pendant growth, would also be a good companion to those already recommended.

In the culture of plants on rockwork it is as essential to pay close attention to watering as in the case of pot-plants. They may not require such frequent waterings ; but when observed to be on the dry side a good supply should be given, enough to penetrate all the soil. On no account should they be allowed to become excessively dry, or the roots, which will be found in quantity next the stone, will suffer materially ; a great difficulty will be experienced in thoroughly saturating the soil if allowed to get dusty-dry—more so in the case of peat than loam. In the latter cases, frequent sprinklings with a rose on the watering-can will be the best means of penetrating the soil. The soil on rockwork, by reason of being more exposed to the influence of the air, will not so soon become exhausted or sodden from any excess of moisture, as in the case of pot-plants. It will at times stand in

need of renewal, not of the entire bulk, but only such as can be removed without disturbing the roots of the plants. This, with a top-dressing of good soil occasionally, using a liberal quantity of silver sand, will keep the plants thriving for years. Any kind of plant which shows a disposition of luxuriant growth, at the expense of those surrounding it, should be kept in check, or removed to another spot. During hot weather the syringe should be used frequently to refreshen the plants ; the first thing in the morning, in the afternoon as the sun is declining, and at nightfall, are the best times for this work. If these instructions are carried out to the best of one's ability, there is no reason whatever why the plants should not succeed well and give satisfaction without more than ordinary attention being given, except in watering, as before mentioned.

Sowing of Flower Seeds under Glass.—

Preparation should be made for this work during February. Shallow pans are the best for seed-sowing, and far preferable to pots, as the latter contain more soil than is needful. These pans should be well drained with broken crocks, some rough pieces of soil placed over the drainage, then filled up, and pressed down firmly just below the rim. The soil for this purpose should have been passed through a sieve, to remove the rougher portions, which can be used for other purposes. It should consist of light loam, decomposed leaf soil, and sand. Before sowing any seed, the pans should be watered well, so as to penetrate through the soil, then left for a few hours to settle ; a fine rose should be used for this work. After the seed is sown, some fine soil should be thinly spread on the top and lightly pressed down ; then given a very slight sprinkling, and the pans, if possible, placed in a gentle warmth, out of the draught, and shaded during sunshine. Should some glass be at disposal, the same would be an advantage if placed over the pans till the seed germinates. This will prevent the surface from becoming too dry.

INFANCY: FOOD AND SLEEP.

AN infant having arrived safely upon the scene, the subject next requiring attention is how to manage the newcomer. How must we act so that we may help him to grow up healthy and good ? We have already provided the clothes and other requirements necessary for infancy. It remains for us now to consider the details of the infant's management.

The Infant's Food.—There is nothing more wonderful in our experience of life than the provision which has been made in the mother's breast of the infant's first food. It is just as if Nature, the great wise parent, had said to the baby's mother, "Poor young mother, I have given you a baby. The child is very tender and very feeble ; and you are very weak and very ignorant. I want to help you as

much as I can. So for a while I will make the food ready for you. It shall be the very best food that can be provided. You could never make any half so good; and if all the nurses who have ever lived were to join and do their best, they could not make food so excellent as this is, which I make for you. It shall always be of the right warmth: there will be no fear that it shall go sour or be spoilt; it shall be exactly what baby needs. If you will use it wisely, and not abuse it, your baby will have a very good chance of growing strong. Moreover, he will not be nearly so troublesome to bring up as he would be if you gave him other food."

The wonderful part of the business is that, having received this valuable gift, so many mothers proceed to despise it. In the first hours of a baby's life mothers and nurses begin to try to improve upon Nature's food by giving it (the baby) castor oil, gruel, butter, sugar, honey, or what not, to clear out the bowels; as if Nature, the wise parent, did not know far better than they do what an infant needs.

The fact is, that the first milk which comes into the breast is slightly aperient, and supplies all the medicine which is required. If we therefore interfere with Mother Nature, and give other medicines, we give our poor little baby pain and wind; while if we had refrained from our mischievous meddling, it might have been quiet and comfortable.

Abuse of Natural Food.—But it is not only in the first hours of an infant's life that mothers and nurses abuse the wonderful food which has been made ready for them. Sometimes they abuse it by letting the child take it at all times and seasons. Sometimes they become impatient with it, and say that it is "poor," and does not "satisfy" the baby; and in order to make it richer and more satisfying they drink porter and beer, when milk and cocoa would be much better, both for themselves and for their milk. Very early, also, they begin to give the infant other food, such as arrowroot or biscuits; and sometimes mothers will be so foolish as to give the little one whatever they happen to be eating themselves. Then they wonder that the poor child has indigestion; and perhaps when it screams and writhes with pain they administer medicines, of whose nature they know nothing, "just to keep it quiet." All the time, if these mothers would trust to Nature, and make the most of the food-supply which has been given them, by using it wisely, the infant would get on and thrive without any difficulty.

It would be well if mothers could know that in giving infants arrowroot, cornflour, biscuits, bread, gruel, tapioca, and all similar foods, they are simply putting into its stomach food which the child cannot make use of, because the organs which are required

to digest these foods are not developed in an infant. Farinaceous foods do not nourish an infant, and they make him irritable. Consequently, when giving these foods, mothers are taking steps to hinder the child's thriving.

Some mothers think that it is very noble and virtuous of them to give the baby what they have themselves, and that to do so shows their motherly feeling. It only shows that they do not know what is best. It is not the amount of food we take, but the amount of food we digest and "assimilate" which makes us strong and hearty. If we take more food than is needed, or food which we cannot easily digest, the various organs of the body "strike work," and give up behaving in an orderly manner and doing their appointed task, just as workpeople occasionally strike for shorter hours and better pay. The consequences are that biliousness, flatulency, diarrhoea, and various other diseases are set up, and we become ailing and weak. So it is with infants. But the difference between us and these small individuals is, that we require different sorts of food, and we need to exercise a wise choice as to what will do most good; but an infant until it is about seven months old needs nothing at all but milk—mother's milk if it can have it, because that is best of all. If it cannot have mother's milk, it should either have a wet-nurse—or ass's, cow's, or goat's milk mixed with water, because these most closely resemble mother's milk.

Making the most of a Mother's Milk.

—Mothers who are moderately well, and who have plenty of milk, ought to take a little pains to let the infant reap the benefit of it, for by so doing they give the child a chance of growing up strong and hearty, which it can gain in no other way. So far as we can judge, the first six months of a child's life are more important than all the rest in determining what its constitution and its future are to be. If the infant gets a good start then, and is set on the road to health, it usually has a remarkable capacity for throwing off illness, and recovering from knock-down blows. Then people say, "It is wonderful what children can stand." But if it gets a bad start, and is set on the wrong road, it never seems to escape altogether from the effects of the disaster. It catches whatever "there is going," it is always in the way of accidents, and it is always taking the wrong turn when a good deal depends on its taking the right one. No after-care which love and devotion can give during the long years of childhood, manhood, or old age, ever entirely makes up for neglect or mistake during the fateful first six months of life.

There are many mothers who through thought-

lessness or ignorance have behaved foolishly towards the infant, who, when years and experience have made them wiser, would gladly lay down their lives if by so doing they could destroy the consequences of their own acts. They would sit up at nights, they would watch and wait, and spare neither labour nor pains, if thus they could give health and strength to the delicate darling whom they have learnt to love so much. But then much of their effort is of no avail. Not when the child is grown, and his constitution formed, is the mother's "accepted time." Her accepted time is during the first six months of life; and if she will only do what is wise and right then, she will not only spare herself many a pang, but she will sow the seed of a harvest of joy.

There are, it is said, mothers in the world (let us hope they are very few), who, having milk, do not try to rear the infant upon it, because they think "it saves so much trouble to give the bottle." These mothers are mistaken, even if we look at the matter from their own low standpoint. It is most troublesome to bring up an infant by hand. The person who has to do the work never knows when she has done. There are the bottles to look after, and they need unceasing care if they are to be kept sweet and clean; there is the milk to be measured and prepared, and made exactly of the right warmth; and there is the anxiety of getting pure and fresh milk. This is a matter not always easy of accomplishment, but still a detail of the highest importance, because, though grown-up people frequently drink inferior milk, or stale milk, without seeming to be injured very much thereby, the infant has no such power. Its feeble delicate organs are put out of order directly if its food is not what it ought to be. But the mother's milk is always ready when wanted. It is exactly of the proper warmth; it is mixed in the due proportions; it is sweet, pure, clean, and fresh; and all that is needed is for the child to be allowed to put his lips to the marvellous fountain, and he will drink in comfort, contentment, and health. There never was a greater mistake made than for a mother to think she saves trouble by bringing up an infant by hand. People who have tried both ways, and who therefore know, say that it is not a tithe of the trouble to feed a child in the natural way, compared with what it is to use artificial food, or to employ a bottle. Of course, it is not denied that by bringing up an infant with the bottle a mother who can pay nurses to do her work may save *herself* trouble. All that we maintain is that the sum of trouble will be largely increased thereby, and that it will have to be borne by some one; while the probability is that the child himself will have to bear a large share of it, spread over a great number of years.

Cases where Natural Food is Improper.

—Undoubtedly there are cases—when a mother is sickly and ill—when it would be most harmful to the infant that it should be reared on his mother's milk, and, instead of taking health and strength from his mother, the child would take the beginning of illness and pain from her. Also it is very certain that there are now many women, quite "healthy" apparently, who have not milk for their children—due to our civilisation no doubt, or perhaps to past generations of wet-nursing; but it is a fact. Many others can only about one-half or one-third nurse them, and have to supplement their milk. Cases of this kind should always be decided by the doctor, and a mother ought never to be expected to pronounce upon them. If the doctor says to a mother, "You are not fit to suckle your child," then the mother should strive to provide the best substitute she can for the food which has been denied to her. A misfortune will have come upon her which she must do her best to remedy; and by doing what the doctor tells her she will very likely be choosing the less of two evils. But should she be a tolerably healthy woman, she will be healthier, and the baby will be healthier, if she nurses him herself.

Proper Method in Nursing.—Yet, although it is undeniable that it is an advantage and a blessing to have a supply of Nature's food for feeding the infant, we must not forget that, if this food is to be made the most of, it must be used wisely. As a rule, mothers give their babies food too often. Whenever the child cries, or seems uncomfortable, or disturbed in any way, they let it take food. The consequence is, not only that they have no rest themselves, but they bring on illness in the child. The stomach of the infant becomes overloaded, the food remains undigested, the bowels are disordered, fever is excited, and by-and-by the little one becomes seriously ill, and in the end perhaps dies; whereas, if it had been nursed upon a settled plan, it might have been healthy enough, and grown up strong and hearty. Not only the children suffer, however, but the mother suffers also when the breast is given too often. In the daytime she is constantly being dragged down, she never has any peace; and in the night things are still worse. Every morning the mother rises from her bed feeling as tired as she was when she lay down upon it. This is one reason why mothers become wearied and ill with nursing their infants. This work, like other work, is best done when it is managed and planned; and the people who do it systematically feel the burden of it the least.

Let the mother, therefore, who is going to nurse her child, by all means do it with regularity.

As a guide to the times of feeding we will give the rules drawn up by Dr. Angel Money, one of the best authorities who can be quoted concerning the management of children. Yet it must be noted that even while insisting on the importance of habits of regular feeding and sleeping, this doctor was careful to say that the rules must be looked upon as average and very elastic. Each baby has to be considered as a concern in and of itself. Thus some babies thrive well enough on less frequent feedings, and others on smaller doses at shorter intervals, because size, mental and bodily activity, and capacity for digestion, are very variable factors in infants. But in all cases it is most important that a baby should be fed with regularity; and it is always found that the mothers who are most successful in maintaining regularity, are those who feed their infants by the clock. Mothers should keep a slate and slate-pencil on the nursery mantel-piece, or they should nail a memorandum book with a pencil attached to it to the back of the nursery door. Every morning they should draw up a list of the times at which the child ought to be fed during the day. On each occasion after food has been given they should take a note of the time. By this means they will keep a check upon themselves to secure the regularity of the child's meals.

Mothers who have never tried this plan have no conception of the comfort which it brings. When an infant's food is given at regular intervals, there is not half the crying which there is when food is given every time the baby cries. With regard to its food, and its small habits of life, if the mother does not learn how to manage the child, the child very soon learns how to manage the mother. When a baby discovers that if it cries it is fed, it keeps on crying until it is fed. Yet a child's cry does not invariably denote hunger. It may mean also, "My feet are cold;" or, "I am uncomfortable;" or, "A pin is pricking me;" or, "My dress is too tight;" while very often indeed it means, "I am in pain because the last time I was fed I had more food given me than was good for me." It must be remembered that the only way in which a child can proclaim its wants in any way is by crying. It "has no language but a cry." Dr. Angel Money says:—"Constant crying is a call, not for food, but for rectification of feeding, and for attention to details of indigestion." The mother, therefore, who answers every cry by giving food, simply shows that she does not understand the language of her own child. If, however, she will accept what wise men have said about the necessity of a certain time elapsing between each meal, she will know that if a cry is heard when it is not the time for food, the cause of the cry must be looked for somewhere else.

In this case, also, the child will very soon cease to expect food except at the right time. Infants have more intelligence than their elders know.

Let us hear, then, what Dr. Angel Money advises. He says:—"During the first week or two the infant should be put to the breast every two hours from 4 a.m. to 10 p.m., leaving the mother six hours good rest. Later on, and by gradual increase of the interval, the breast should be given every three hours by the end of the second month. As a rule, at seven months other food may be given; and weaning should be gradually accomplished by the end of the tenth month. The interval of feeding may be increased to three hours and a half if possible. At ten months the rate of feeding should be every four hours."

Dr. Chavasse, another authority on children, speaking of regularity in feeding, also says:—"If an infant were suckled at stated periods, he would only look for the breast at those times, and be satisfied. A mother is frequently in the habit of giving the child the breast every time he cries, regardless of the cause. The cause too frequently is that he has been too often suckled; his stomach has been overloaded. The little fellow is consequently in pain, and he gives utterance to it by cries. How absurd is such a practice! We may as well endeavour to put out a fire by feeding it with fuel! An infant should be accustomed to regularity in everything—in times for suckling, for sleeping, &c. No children thrive so well as those who are thus early taught."

If good management is called for with regard to feeding the baby in the daytime, still more necessary is it for the night. Here it shows itself in doing away with night nursing altogether as soon as possible. We have seen that during the first month an infant should have food given to it every two hours. This is because the stomach is weak, and the child can take very little food at one time; its wants are soon satisfied, but frequently renewed. After the first month, however, there is to be a change. The child then is to be suckled last thing before the mother goes to bed—say, at 10 p.m. It should then be made comfortable, and if it is well trained and healthy, will generally sleep till three or four in the morning. Yet, let the mother do what she will, some infants have to have a meal in the middle of the night. If the child can be trained to dispense with it, however, the mother gains some hours of undisturbed rest; and what such rest is worth, only mothers know who have a baby crying half the night, while they are overpowered for want of sleep. To secure this rest, however, the infant's times of sleep must be managed as well as its times of taking food. This detail will be dealt with later.

As already said, the greatest blessing that can

come to an infant, if the mother is fairly healthy, is to have mother's milk till it is about seven months old. Till this time it needs no other food. Inexperienced mothers cannot believe that milk is sufficient. We hear them constantly remark, "Baby always seems hungry; he is not satisfied." In the majority of these cases, the baby always seems hungry because he is constantly being fed. As a matter of fact, we have the highest medical authority for saying "there is no real substitute for a mother's milk; there is no food so well adapted to the baby's stomach. There is no diet equal to it in developing muscle, in making bone, or in producing that beautiful plump rounded contour of the limbs; there is nothing like mother's milk *alone* in making a child contented and happy, in laying the foundation of a healthy constitution, in preparing the baby for a long life, in giving him tone to resist disease, or in causing him to cut his teeth easily and well."

Artificial Food.—As we have already said, it sometimes happens that an infant has to dispense with the mother's milk. What is then to be done? For one thing, the greatest care will have to be given; and if the infant is not well cared for, he will die. Still, if he has a strong constitution and is most judiciously treated, he may do well. There is no denying that numbers of children are brought up by hand, and that they seem to thrive. When we see those who thrive, we are apt to forget the much larger number who die. If we remembered these, we should realise how difficult was the task set before us.

The subject is, however, so important, and mistakes made here are so disastrous, that we ought to take the greatest pains to find out the best that is known about it. To this end, we must ascertain the opinion of the highest authorities on the subject. One of these, unquestionably, is the Dr. Angel Money already mentioned; and another is Dr. Eustace Smith, physician to the East London Children's Hospital. Both these gentlemen have written upon "Disease in Children," and from their works we may learn much. From these doctors chiefly, and from other authorities also, we gain the following hints:—

To bring up a child successfully by hand requires intelligence and tact, but, above all, it requires watchfulness. If we are vigilant to detect the first signs of the food not agreeing, and if we at once modify its diet, we may keep the child healthy, and prevent the difficulties which would be sure to arise in a child less carefully nurtured.

Usually an infant is able to obtain milk from its mother's breast during the first month after birth. When this is the case, so much the better. When this cannot be, the babe either has to have a wet-

nurse, or he has to depend on artificial food from the beginning. The decision about a wet-nurse should always be in the hands of a doctor; therefore it need not be discussed here. But if artificial food is to be employed, much judgment is necessary. For the first six weeks, according to Dr. Eustace Smith, the infant may be fed with condensed milk diluted with water or thin barley-water, in the proportion of one teaspoonful of the milk to the half-bottle of water or barley-water. At this age preserved milk almost invariably agrees. Care must, however, be taken to use only milk from a tin which has been newly opened, for after it has been exposed to the air, milk, even though it looks fresh, is unfit for the use of a baby. In hot weather, too, the barley-water should be freshly made twice in the day. Like the milk, it should be kept in a cool place, and after it has once been made, should never be allowed to reach the boiling-point, or it will be more likely to ferment.

After the child is six weeks, or at the most two months, old, it should be put upon cow's milk. Of course, this too must be perfectly fresh. If there is the slightest fear on this point (as there well may be in towns, and especially in warm weather), a tiny pinch of carbonate of soda may be added to correct the acidity.

To make cow's milk suitable food for an infant of two months old, we must mix it with an equal quantity of hot water, and sweeten it with a little sugar. As the child grows older, the quantity of water may be decreased, and the amount of milk increased, until nearly all milk is used. Thus, when the infant is three months old, one-third of the quantity of food may be of water, and from this time the proportion of water should be gradually lessened. When making this food, the milk should not be heated over the fire. It should be put in a jug, and set in a basin of hot water; or it should be made hot by means of the hot water that is added to it. When used, it should be what is called lukewarm. If we could test the heat by a thermometer, we ought to let it rise to 95°. This is much the safest plan. The sugar also should be dissolved in the water before it is put with the milk.

Very often, when cow's milk does not agree with an infant, the reason is that there has been a mixture of milks. The milk of one cow will frequently suit a child, when all other foods seem to fail. This hint is worth remembering; and dairymen even in towns are accustomed to supply the milk of one cow for infants. In hot weather milk should be boiled and kept in a refrigerator. The refrigerator is best kept outside the nursery, and not in a dusty place. The lid should always be down. Sometimes, when pure milk and a good supply of *fresh* milk cannot be

obtained, condensed milk must be employed beyond the first six weeks of life. Dr. Money says that nappiness, growth in size, and increase in weight, are seen with condensed-milk feeding; but there is too much fat formed, and the child is apathetic, rather than comfortable and lively. A child brought up for seven months on condensed milk runs the risk of becoming scorbutic or rickety, or both. If sweetened condensed milk be used, half a teaspoonful to three tablespoonfuls are the usual proportions for the first week. This does not contain enough fat, and so the addition of ten drops of cream is needed. Later, one teaspoonful may be given in four or five tablespoonfuls of water. At the seventh month a teaspoonful to two tablespoonfuls would be an average quantity. The amount of fluid taken should be about the same as when diluted cow's milk is used; but cow's milk should be tried from time to time, in order to displace, if possible, the condensed milk.

It has been said that if a child is to be brought up successfully by hand, he must be watched. After taking food a child ought to go off to sleep. If, instead of this, he makes any signs of being fretful or uncomfortable, we may be almost sure that something is wrong. If the child is healthy, and has taken food in suitable quantities and at regular intervals, the most likely cause of mischief is the condition of the bottles. If these are everything that could be wished, it will be well to dilute the milk with thin barley-water, instead of hot water only. Barley-water, according to Dr. Eustace Smith, rarely disagrees with young infants; but Dr. Angel Money warns us that it must not be too thick. Two teaspoonfuls of Scotch or pearl barley to a pint of cold (previously boiled or filtered) water may be boiled in a clean saucepan down to two-thirds of a pint. After straining through muslin the liquor may be used. Sometimes also a little lime-water is added to the milk-and-water, to make it digest. For an infant two months old the proportions would be two tablespoonfuls of milk, two tablespoonfuls of hot water, and two tablespoonfuls of lime-water. Lime-water should be kept well stoppered. On no account should what are known as farinaceous foods, such as arrowroot, sago, gruel, tapioca, or biscuits of any kind, be given to an infant. "No other food than milk till the age of seven months is the golden rule."

A doctor at one of the large hospitals, who had had a great many sick infants brought to him by their mothers, said a little while ago that the first question he always asked was, "What food have you been giving this baby?" Almost invariably the answer was, "I am giving him bisquit or gruel, or some kind of 'Infants' Food.'" When the mothers were very ignorant they would say, "Baby has just what we have ourselves." Then the doctor would reply,

"Until you give up that food, ma'am, I can do nothing for your baby. There is no medicine that we can give that will make a child healthy if his food is not right." Does not this show how careful mothers ought to be about their children's food? One of the chief causes of disease and death among young infants is the practice of giving other foods than milk properly mixed.

Another doctor of large experience said that children who were improperly fed, and brought up under unhealthy conditions, very often had fits while they were cutting their teeth, and later in life they developed epilepsy. If mothers knew what a terrible disease epilepsy is, they would understand the importance of doing all they can to bring up their children to be healthy.

Quantity of Food.—The quantity of food given is another point of great importance, and yet it is impossible here to lay down an exact rule, because some children need more food than others. Usually an infant four or five weeks old would need six or eight tablespoonfuls of milk-and-water properly mixed. "Very variable," says Dr. Angel Money, "is the quantity of food mixture required at different months. Twelve ounces is about right for the first week. The quantity may roughly be said to increase at the rate of four ounces each month. At the seventh month thirty-five to forty ounces is about a right quantity. Later, as much as three pints may be ingested in the twenty-four hours." The food also should be taken leisurely, not less than ten minutes being spent over the meal. This duration is effected by occasionally withdrawing the bottle should the sucking be too rapid. The practice of letting the child suck the empty bottle is bad, because the child swallows air, and distends the stomach.

We should always remember that there is much greater danger of baby having too much food given it than too little. Miss Nightingale says, "When a baby is sick after food, you have given it too much." Some mothers think that if only a child has the bottle constantly in its mouth, it is sure to get on. As a matter of fact, however, a baby that is fed too much and too often is quite as likely to be weakly and ailing as is the baby that is half-starved.

From all this we learn that when milk properly mixed does not agree with an infant, we ought to inquire—first, whether food is taken at regular intervals; secondly, whether it is taken in suitable quantities; and thirdly, whether the bottles and everything connected therewith are kept perfectly clean.

Infants' Bottles.—When an infant is taking the bottle, it should not be laid down, but should be

held in a half-reclining position, as it would be if taking natural food in its mother's arms. Food digests more easily when the baby is laid thus.

A word as to these said bottles. It is acknowledged by every one who has had any experience in bringing up children by hand, that unless all the articles used are kept most scrupulously clean, all the care that may be bestowed on the choice and the preparation of the food will be thrown away. The mother, therefore, should herself look after the condition of the bottles. There are very few servants who can be relied upon to do the business thoroughly. On account of the difficulty of keeping the different parts of a bottle clean, the slipper-shaped bottle is preferred by doctors to bottles fitted with a tube. The difficulty associated with the slipper-shaped bottle is that the milk flows therefrom too quickly. The flow of milk can, however, be easily regulated by tilting the bottle less or more, according to the vigour of sucking. The neck of the bottle should be kept always full, or the infant will swallow air with the food; and thus flatulency, that disturber of the comfort of infants, will be produced.

At least two bottles and two teats should be kept for daily use; let them be employed alternately, and let the one not in use be kept in a basin covered with clean cold water. As soon as a bottle is done with, empty it and throw out any food that may have been left in it; take all the attachments to pieces, wash them well with warm water; and if a bottle with a tube is used, clean the tube with the little brush sold for the purpose. Rinse the appliances well, and leave them with cold water to cover them till wanted. Every day, after thoroughly washing them, put the bottle and its attachments into a clean pan with cold water and one tablespoonful of common soda. Let the water come slowly to the boil; then rinse the pieces thoroughly in clean warm water before laying them in cold water. In very hot weather this process should be repeated twice a day. In putting on the teat, be careful that it is not pushed either too far or not far enough on the neck of the bottle, as either mistake would make it difficult for the baby to draw the food. Teats also should be soaked awhile in lukewarm water before they are used. When new, they are hard, and impart their peculiar taste to the milk. Several teats should be provided.

Purity of the Milk.—This is a detail of great importance. In towns milk is too often acid, and it disagrees with children on this account. If, therefore, there is any fear on this point, the milk should be tested, and then made digestible with lime-water. The following suggestion is taken from a tract on "Hand Feeding," published by the Ladies' Sanitary Association:—"Dr. Routh recommends that the

condition of milk should be ascertained with test-paper (litmus paper), of which two kinds should be kept—some very slightly reddened, and some made slightly blue. A piece of the red paper should be dipped in the milk, and if the paper turns blue only half an ounce of lime-water to a pint of milk-and-water is required. If the paper is not changed, or if it becomes more intensely reddened, it shows that a larger quantity of lime-water is needed. In this case a piece of the blue paper should be dipped into the milk; the paper will turn red, and then as much lime-water should be added as will make it turn blue again. The moment the change takes place in it, enough lime-water has been added. The lime-water and test-paper may be obtained from most druggists. The milk should be supplied fresh twice in a day, and the jug containing it should in warm weather be set in a basin with ice or cold water, which should be frequently changed. The milk should never be boiled to make it keep, for in boiling it undergoes changes which make it less fit for an infant's food."

An infant's meals should be prepared fresh every time they are wanted. It is a great mistake to try to make the whole day's supply from morning till night. This necessity constitutes one of the difficulties associated with night nursing. If a baby needs to be fed in the night, how is his food to be made warm? The reply is that as soon as possible night nursing should be discontinued. If for several months of life a child is fed in the night, there is bad management. It is wonderful how early night nursing can be dispensed with, if only the mother does not get the idea that it must be. Speaking on this point of babies past the age of two months, Dr. Fahrney, a clever medical man, says:—"A child soon becomes accustomed to not having meals at night, and falls into the habit of sleeping all night. Apprising mothers of this course, we are universally met with the question, 'How can it be done?' The answer is, 'Do it.' If you have not begun night nursing, never begin; if you are doing it, no matter what the age of the child, stop at once. Like any unwarrantable habit, it is advisable to desist abruptly, and there is no need to break off gradually."

This is a counsel of perfection which many mothers will think it impossible to follow. This being so, they should make up their minds to heat the water which is to be mixed with the milk when it is wanted. At any rate, Dr. Angel Money says "Food-warmers and preservers are not to be recommended. The food should be made fresh each time, for in any food-warmer fermentation necessarily follows the preservation of the food. Water may easily be made hot in a few minutes with a spirit-lamp or fire."

Diet at and after Seven Months.—When a child is seven months old, if he has cut his first four teeth, he may begin to take more substantial food. The appearance of the teeth is by many doctors taken to be the signal that the infant is able to digest more than milk. All changes of diet, however, should be made cautiously, and their effect should be carefully watched. If the new food appear to cause indigestion or flatulence, it should be given next time in a smaller quantity, or the mother might wait for a week before giving it a second time. If it seems to agree, a little of the new food may be mixed with the milk twice in the day. In the course of three or four weeks, the quantity of food can be gradually increased, until the meals of pure milk are entirely superseded.

According to the highest authorities, the foods which are most suitable for an infant at and after he has reached the age of seven months, and when the first teeth begin to appear, are Mellin's Food, and Chapman's Entire-Wheat Flour. Dr. Angel Money says:—"Chapman's Entire-Wheat Flour and Mellin's Food are those I prefer. Sometimes a mixture of Savory and Moore's with Mellin's, in equal parts, has proved of service. Nestlé's Food is also good." The foods here recommended are most carefully prepared; therefore, when they are used, the directions given for making them, and which are to be found on a printed label accompanying them, should be followed exactly. The food also should be measured carefully, and given in the prescribed doses, while the measure used should be kept scrupulously clean. The food thus given should form the mid-day meal; but, until the age of ten months, milk should still be the chief article of the diet. About three or four parts of cow's milk to one of water is the usual proportion for seven months and ten months respectively.

Many mothers have a fear that at this age milk cannot be sufficient for a child, because it is not thick enough. This notion, however, is erroneous. It does not follow that a food is nutritious because it is thick. The choice of a child's food is a subject of so much importance, and so much depends upon the right food being employed, seeing that the deaths which occur among young children are chiefly due to disorders caused by the wrong food being taken, that mothers ought to be afraid to leave the choice of food to chance or fancy; also, having decided to follow the advice of the highest authorities in the matter of the choice of food, they should take every precaution and follow the directions given, if they would avoid disappointment.

When the child is twelve months old, cow's milk may be given pure, and he should be weaned from

his bottle, and a cup or feeder used instead. Until he is twelve months old the use of a bottle is advisable. We have now Dr. Money's authority for saying that, if it seem necessary, there is no objection to a little mutton, and even mutton fat, at twelve months, although generally actual meat as food should be postponed till eighteen months. Red meat gravy, with a little fat, from the joint, may be given; also eggs. The meat should always be minced, and if possible pounded. Breast of chicken, mashed cauliflower, mashed mealy potato, may all be employed. Bread-and-butter, under the age of two years, is to be regarded as bad. Any bread used should be stale, and crumbled into a plate before the child eats it. When he is weaned, also, a custard pudding, made of one egg to half a pint of milk and a little sugar, may be allowed every day. When the teeth are fully developed and fill the jaws, most articles of diet may be allowed; but beer, wine, spirits, cheese, pastry, and pork should be interdicted.

Weaning.—The time at which infants should be weaned depends chiefly on the health of the mother. If the mother is strong and healthy, if her milk nourishes the child, and if there are no signs of exhaustion, it will be advantageous to the infant that nursing should be partially maintained till the tenth month, although at seven months other food may be commenced. Whenever it is possible, however, it is best that the weaning should be accomplished gradually. About a month before a mother intends to leave off suckling, it is a good plan for her to feed her baby first once a day, then twice a day. If the baby is partly accustomed to other food before he is weaned, either from the breast or the bottle, he will not be disturbed, mentally or physically, as would be the case if a change were suddenly made.

Sleep.—Plenty of sleep is one of the good things which an infant must have if he is to thrive. It is always a good sign when a young infant sleeps much. Numbers of children who were born small and delicate have slept the greater part of their time, and have become strong and hearty. Others born fine and strong, have slept little, and have become weak and unhealthy. Babies, like all young creatures, require a great deal of sleep. By all means, therefore, a mother should make it her study to secure comfortable natural sleep for her baby.

During the first three or four months of life an infant ought to spend most of his time in sleep, waking only to be fed or to be made comfortable. Even when not asleep he should be left quiet, and allowed to lie still. If only people would remember

this, would refrain from shaking him and tossing him, and would let him become quietly and gradually accustomed to the strange new world in which he has taken his place, he would have a much better chance of being a staid wise dweller therein, and also of getting a comfortable nap in it occasionally, without their having to adopt all sorts of expedients to that end.

After the first few months an infant will not sleep so much; but until he is two years old, he should still be accustomed to sleep two hours in the day and twelve hours in the night. Indeed, until he is four or five years old, it will be an advantage if a short sleep in the day is made a habit with him. It has been found again and again that children who are trained to take sleep in the middle of the day actually sleep better at night than do children who dispense with sleep in the daytime. The fact is that children who do not sleep in the day become over weary and excited, so that their sleep at night is broken, and does not refresh them as it should; whilst those who sleep are made quiet and calm thereby. The mother, therefore, who takes pains to train her little one to go to sleep at the same hour every day, without rocking, shaking, patting, hushing, or any other of the modes of treatment usually adopted for the purpose, is doing him a great kindness, and is taking most effectual means to promote his health and well-being.

Soothing Drugs.—Very often it happens, especially when mothers are ignorant, that they appreciate the value of sleep so highly, that when baby will not go to sleep in the ordinary way they give “a dose,” “a composing mixture,” “a little soothing syrup,” “a sleeping draught,” or one of the numerous preparations sold under various names, “just to quiet him.” Some mothers will even give the baby a little gin to make him sleep. The mother who acts thus makes a fatal mistake. It is scarcely possible to find words which will express strongly enough the evil of this practice. Mothers who get their children off to sleep by methods like these are committing the greatest cruelty. They are doing what they can to injure, not merely the bodily health, but the brain of the child. Infants who are “sent to sleep” with soothing doses too often grow up stupid and dull; they are not sharp like other children. There are, indeed, people who say that when children who are frequently dosed to make them sleep, grow to be men and women, their moral sense is blunted, and there is the fear that they may become murderers, thieves, and criminals. Should this be true, who is to blame for the crimes which are committed? If mothers understood the price which would have to be paid in the future for the hour or two of quiet

gained by a quieting dose now, they would surely be willing to have their own sleep broken for the rest of their lives, rather than bring such mischief on a helpless little baby.

Very frequently, however, the poor little mortal escapes all risk of this kind, for he is quieted only too effectually; “he goes to a quiet place—the grave.” Miss Nightingale, in her “Notes on Nursing,” says, “Many even well-to-do babies I have known, who have died from having had something given to make them sleep, and ‘keep them quiet,’ not for the first time, not the second, not the tenth time perhaps—but at last.” Every doctor of experience on the subject agrees with this testimony.

Management of Sleep.—The pity of it all is that there is no occasion for errors of the kind. If a baby who is healthy when born, is sensibly brought up, is fed at regular intervals, and with food that agrees with him; if he is kept properly clean, and is well *managed*, made warm and comfortable, and yet not too warm, in bed; if his night clothing is not tight in any part; if there are no startling noises in the room in which he lies, and, most important of all, if the air in that room is pure; the baby will sleep without any difficulty, and every half-hour of the natural beautiful slumber will help to make him strong, hearty, and good-tempered. But to get the sleep, baby will have to be managed, and it is here where the difficulty lies.

Perhaps young mothers who read this book, and who have not hitherto had much experience in a nursery, will at this point be inclined to say, “Is not the work of bringing up a baby very troublesome? From all that is said here it seems as if the mother would never have done.” Of course a mother's duty is troublesome; it is very troublesome indeed. The mother who would bring up her baby well must put all her mind, and all her heart, and a large portion of her strength and time into the business. She must be prepared to sacrifice her own comfort, ease, and pleasure at every turn. Yet if she cheerfully does this, how rich her reward will be! It will be “full measure, pressed down, and running over.” If, after giving intelligent care to the rearing and training of her children, they should grow up healthy in mind and body, vigorous, honest, true, good, and capable, her joy will have no end. Her children will keep her glad as long as life lasts; and we can well believe that they will enhance even the joys of heaven. What could a father and mother desire more than that they might be permitted to take their place in their Heavenly Father's Home, saying, “Here are we, Lord, and the children whom Thou hast given us”? If mothers could realise the delights that spring in this path of duty, they would

despise the pains which are found there also. Yet it is a fact that the delights are very closely associated with the pains. Loftiness of character, amiability of temper, tractability of disposition, have more to do with health of body than we know; and health of body is almost impossible for those who are not wisely cared for when young. So mothers must not mind the trouble, when both the giving it and the withholding it are of such great importance. Also they must remember that a little trouble taken at the beginning of an infant's life to form good habits, really saves tenfold the trouble in the end. The one thing they need to be careful about is to begin early enough. The mistake most frequently made is that mothers begin their training too late. If the question be asked, "At what age should an infant's training begin?" the answer would be, "During the first week of life." "Beware of the beginning," said a wise man; "after-remedies come too late."

With regard, then, to this question of *managing* the baby's sleep. It has already been said that during the first few weeks of life a healthy baby is constantly *inclined* to sleep. This, then, is the mother's golden opportunity. It is now that the infant should be (we will not say, trained) but accustomed to be laid quietly in his cradle, sometimes on one side, sometimes on the other, but not always on the same side, and left to go to sleep. The room in which he lies should be darkened, and there should be no noise in it. The nurse should on no account rock the cradle or sing to the child; she should be quite sure that there is no disturbing influence at work; for example, she must know that the baby's feet are warm before he is laid in the cot, that he is not hungry and uncomfortable, and that "sleepy time" has come. It would, of course, be absurd to put a child into the cradle, expecting him to go to sleep, a few minutes after he had been taken out of the cradle, and before his requirements had been attended to. But having ascertained that everything is as it should be, she must put him into bed, and move away out of his sight. She need not leave him entirely; she may easily wait within hearing, but she should not hush him to sleep. If she does, she is preparing much trouble for the future. Let her simply place him comfortably, and step aside. After this has been repeated a few times he will go to sleep. Only she must persevere. This is the secret—persevere. Success will not come all at once; nor will success come at the same time to all, because babies differ as much as grown-up people do. Consequently it is not possible to say how long it will be before baby learns that he is to go to sleep when laid down. Still, she must persevere. When the child is older, he is certain to

rebel; and the probability is that the healthier he is, and the more character he has, the more vigorous will the rebellion be. But let the mother keep on her course quietly, steadily, and perseveringly, and in time the child will yield. It is most likely that this obedience will come to him all at once, and quite unexpectedly. Apparently he will suddenly arrive at the opinion that the will outside him is stronger than the will within, that he has to give way, and that it is useless to struggle any longer. But if the mother can, while the child is still quite young, succeed in securing obedience by gentle firmness, without any harshness or scolding, but simply by the exercise of patience and perseverance, she will have done much towards making home happy, her child happy and obedient, and towards saving her husband and herself untold trouble and annoyance. The obedience thus obtained will form a basis for all future obedience, and the child will have taken the first steps towards being made "manageable."

A very effectual aid towards making a baby sleep well, is to observe the regularity with regard to feeding which was recommended a little while ago. Speaking on this subject we may, perhaps, be allowed to quote some advice which was given recently by Dr. Emmett Holt in the magazine called *Babyhood*. When treating of the method to be adopted in training an infant, Dr. Holt said:—

"The first thing to be taught is that the infant shall take a long sleep at night. To this end feed him at regular hours up to half-past nine or ten, and be sure that he has a full meal at that hour. We wish to make him sleep, and postpone his next feeding as long as possible. In two hours he awakens, and perhaps cries. Do not take him out of his crib at once, with the idea that he must be starving; but attend to his comfort in other ways. Turn him over; smooth out his clothes; change his diaper if necessary; pat his back, but do not rock him. In the vast majority of cases some of these little devices will have the effect of soothing the child off to sleep for another nap. Sometimes a teaspoonful of sweetened water may be given. For the first two or three nights we may not do better than to keep the baby asleep four hours; but in a week's time usually we are able to prolong the time to five hours, or even six, almost every night. When this is done as a regular thing, we are able to get along with but one night nursing after ten o'clock. We have seen an infant, by the time he was two weeks old, trained to sleep from ten till four, so that he did this for nearly two weeks without missing a single night."

It has been already said that during the first weeks of infancy the child will be inclined to sleep most of his time, and should be encouraged to do so.

When these first weeks are passed, however, pains must be taken to induce him to sleep at regular times, and also to remain awake at regular times during the day. If this could be done, the baby would be much more likely to sleep well at night. We very often hear mothers say that "The baby had a bad night," or "Baby was awake a long while in the middle of the night, and would not be hushed off," etc. Also we often hear parents say that they would be "so glad if the baby would sleep in the evening, so that they could have a quiet time." A large proportion of the mischievous doses which are administered are given in order to make the baby sleep in the evening.

Yet if we were to inquire into the matter we should probably find that where infants do not sleep in the evening, the reason is that they have had a "good sleep" in the afternoon. If the mother will think a little, she will see that if a child sleeps late in the afternoon, it is only likely that he will be lively in the evening. What she should do, therefore, is to keep him lively in the afternoon, so that he may be sleepy in the evening. Probably this will not be easy. Mothers who have been busy all day begin to weary towards tea-time, and they are very glad if the little one "drops off to sleep," say, about four o'clock, and leaves them free for a while. Yet this hour's freedom is dearly purchased. The price which too frequently has to be paid for it is a broken evening, when, maybe, the father is at home, and would be glad to chat or read in his wife's company. If only the wife had "managed" (that is, done what she could to induce the child to take his sleep before three o'clock, and nursed him well, or, at any rate, gently discouraged his sleeping after three), he would have been tired by six o'clock. He might then have been put into his tub, had his clean easily-fitting night-gown put on, his food given to him, his pretty toes warmed, and rosy, content, warm, and happy, he could have been laid away in his little cot, and would have slept soundly till about half-past ten. Before the mother went to bed she would take him up, feed him once more, make him comfortable, then lay him down again, and he would probably sleep till three or four in the morning. During the evening the father might creep up to the side of his cot and peep at him, and his heart would be full of love and joy. "How well baby looks!" he would, perhaps, whisper to the proud mother who was with him; and "Dear little fellow, how good he is! I am so glad our baby is good, and sleeps in the evening." The father who speaks thus does not understand. He owes his pleasant evening to the fact, not that the child is good, but that "mother" knows how to manage him. If mother had not "managed," baby would have slept from

three to five, and would have taken possession of the house from six to nine; and, as all persons of experience know, where infants do this there is very little comfort for elders who have to nurse them.

Let mothers, therefore, who rejoice in the possession of a healthy infant, and who desire to manage well, make it their aim to get the small despot into the way of taking his principal day sleep from about eleven to one. If he will take more than this, let him have half an hour or an hour about three o'clock; but let them understand that if he sleeps late in the afternoon, the most probable consequence will be a broken evening and a bad night. When we recommend regularity in the hours of the infant's sleep, we do so because we know that if he sleeps too late in the day, his nights will be restless and disturbed.

Sleeping Alone.—It is most desirable that if he can be kept sufficiently warm, an infant should not sleep in the same bed with his mother or nurse. His crib may be in the coziest, snuggest corner near his mother's bed, and the greatest pains may be taken to keep him from being cold; and yet, if it is possible to manage it, he should sleep alone. Infants who sleep with grown-up people are so often overlaid and suffocated, that there is no doubt of the danger of the practice. Added to this, we have to remember, that it is not healthy for a child to sleep with an adult. Thus Dr. Barker, in his book on the "Management of Children," says, "A baby, even when taken into his mother's bed (because he is cold or requires food), should be allowed to remain only so long as to restore warmth, for, besides the avoidance of suffocation and overlaying, this plan of training him to sleep in his own little bed is far more wholesome than regularly allowing him to sleep with an adult, by whose bodily exhalations the air of the bed is vitiated."

Many mothers who nurse their infants, find it easy to take the child into the bed with them, and nurse him as he lies by their side. The little one is very comfortable thus—mother is very tired, and in a few minutes both fall asleep. In a little while the baby half wakes, and at once takes food again, and this is repeated at frequent intervals during the night; the consequence being, that the mother is weakened, and after a few weeks of this experience, she finds herself ailing and nervous. Nor is the infant benefited. There is little hope that a child who is thus treated will be trained to regularity in his hours of sleep, or that he will form the habit of going to sleep awake without being rocked, coaxed, or fed. Indulgences of this sort make system and good management impossible. For the moment they seem to

save trouble, but in the long run they make trouble, and do both the mother and the child harm. Let the mother who nurses her infant therefore do so when necessary, but be most scrupulously careful to put him back comfortably in his crib when his needs are satisfied. If this method were adopted from the beginning, and persevered in, everything would be made easy. A difficulty is found only when mothers fall into a bad habit, and afterwards try to leave it and adopt a good one. Children usually object very vigorously to a change like this. Nevertheless the wise mother, who has thoughtlessly made a mistake here, will do her best to accomplish what is best. If she succeeds, both her child and herself will be the better for it.

Equally destructive of any hope of establishing regular habits, is the practice of letting an infant, who is brought up by hand, sleep with the teat of the bottle in his mouth, so that he may suck himself to sleep. A baby who does this, continues to suck when he is half asleep; by this means he draws wind into his stomach, and thus pain is produced. Moreover, there is the probability that the baby who is "sent to sleep with the bottle," will want the bottle every time he rouses a little. If it is not there he will wake up entirely, whereas if he had not expected to find it, he would have gone quietly off again. Thus his sleep would be disturbed; and this in itself is to be deplored. For, as all mothers know, "the little snatches" of sleep which a child gets do not benefit him much; it is from his "good sleeps" that he wakes rested and good-tempered. Another reason why babies should not be allowed to suck themselves to sleep is, that painful cases have several times occurred in which deformity of the jaws has been caused by the practice of fruitless sucking. For this reason infants should not be taught to suck their thumbs during sleep.

Beds and Bedding.—The materials used in making the baby's bed, and the way in which that bed is made, have a great deal to do with an infant's enjoyment of healthful sleep. Medical men usually recommend that a baby should sleep on a horse-hair mattress. This is very excellent, but it is expensive, and therefore not readily renewed. Yet an infant's bed should be frequently taken to pieces, the contents pulled apart, and made up again. It is most important that the bed should be thoroughly sweet and clean; and as a young infant's bed is liable to be wetted, it must be opened and have the contents aired from time to time, and if necessary, renewed. Therefore it is worth knowing that well-picked moss, cocoanut fibre, soft hay, and finely-cut chaff, make excellent beds; and these are so cheap that they can be renewed at a small

cost. An authority on this subject says, "The green, soft, long moss which grows on shady banks and hills, is the right sort for beds. It should be gathered in dry weather, and be well picked and washed clean, then spread in the sun to dry. When it is quite dried the branches should be pulled apart; it is then ready to be put into the bed. Very nice pillows may be made of the same moss. Pillows made of cut chaff are very cool, and this is an advantage when a baby is cutting his teeth, and is liable to be hot and feverish. A square of mackintosh-sheeting laid upon the mattress, and under the under blanket, keeps a bed clean."

Whatever material is used, the bed should be moderately soft. It should be made quite level and firm, and the pillows should not be too high. Carelessness on these two points may cause a tendency to spinal curvature. The bed-covering should be light and porous, but not too heavy. It is not good for a baby to be so hot in bed that he perspires; this would be very mischievous. He needs only to be comfortably warm. If he is smothered with clothes, or weighed down with clothes, he will not breathe easily. Dr. Barker says that in very severe weather it is a good plan to keep a hot bottle covered with flannel at the bottom of the cot, in order to keep the baby warm. He adds, however, that "grave mistakes are often made in keeping the bedroom oppressively hot; and that plenty of pure air is a necessity for the infant." The bottle, of course, should not touch the infant. A baby's bed should also invariably be aired thoroughly for some hours after it has been used. The sheets and blankets should be shaken out and spread separately, exposed to the air, and if possible to the sunshine; the mattress should be turned over, and any lumps that may have formed should be pulled out. Unless these details receive attention serious mischief may ensue.

Mothers who have had two or three children, know quite well that if a child is not placed comfortably in his cot, he will not have a good sleep; therefore, they are always a little uneasy if a person who does not understand how to handle an infant offers to take him to bed. An infant should be laid fairly on his side, sometimes on one side, sometimes on the other. It is as harmful for a baby to lie always on one side, as it is for the nurse to carry him always on one arm. He should not be allowed to lie very low in the bed, and there should be no pillow near the one on which his head rests, for fear he should slip into it, or it should slip upon him; in either case he might be suffocated. Small babies, it should be remembered, have neither the sense nor the strength to free themselves from a danger of this kind. An infant's mouth should on no account be covered with bed-clothes, because if it were, he

would partly rebreathe the same air; and fresh pure air is, if anything, more necessary for a sleeping baby than for a waking one. For this reason there should be no curtains round his crib, because if the air within the crib becomes contaminated, the lungs cannot properly perform their functions. Speaking on this point, Dr. Chavasse says:—

“If a baby’s sleep is to be refreshing, he must breathe pure air. I do not even approve of a head to a crib. Frequently a child is allowed to sleep on a bed with the curtains drawn completely close, as though it were dangerous for a breath of air to blow upon him! This practice is most injurious. An infant must have the full benefit of the air of the room; indeed, the bedroom door must be frequently left ajar, so that the air of the apartment may be changed; of course taking care not to expose him to a draught. If the flies annoy him while he is asleep, let a net veil be thrown over his face, as he can readily breathe through net, but not through a handkerchief.” Dr. Chavasse also adds, “I have somewhere read that if a cage containing a canary be suspended at night within a bed where a person is sleeping, and the curtains be drawn closely around, in the morning the bird will in all probability be found dead.” Mothers will at once see that the air which would kill a bird cannot be good for a little child.

When the baby is asleep, the mother should carefully guard him from being awakened by loud, startling noises. Nor should he be snatched suddenly out of bed when asleep. Miss Nightingale says, “Many a sick baby has been killed in this way.”

There is no more certain way of preventing regularity in sleep than that of allowing a child to sleep on the lap or in the arms of the mother or the nurse. The temptation to this indulgence is sometimes very great. The infant has, perhaps, been restless and uneasy; after a while his little head droops, his eyes close, his breathing becomes soft and regular, and he has fallen asleep. The change is so delightful that the mother is reluctant to part with her darling; she enjoys the knowledge that he is warm and comfortable, and she persuades herself that if she carries him to his cot, he may be disturbed. Nevertheless she ought to run the risk of this. The little one will sleep more soundly and for a longer time in his crib than where he is. He will be cooler, and will rest better there. Besides, there is a danger that the child who lies much on the knees of his mother, or who is kept constantly in her arms, will acquire curvature of the spine. This serious evil is more easily prevented than remedied.

Last, but not least, one of the most effectual means of helping a child to obtain a due amount of sleep is to let him go out of doors as much as possible. When children who are fairly healthy, sleep little, we generally find that the mother has a fear that if they go out much they will take cold. As a learned man once said, “The infant-in-arms makes known its desire for fresh air by restlessness; it cries, for it cannot speak its wants; is taken abroad, and is quiet.” The subject of sending the baby out into the open air, however, will be more fully considered in another article.

TYPHOID FEVER AND SMALL-POX.

Typhoid Fever.—This disease rejoices in many names; it is called “typhoid” or “abdominal typhus,” “enteric” or “entero-mesenteric” fever, “slow” fever and “low” fever, “gastric” or “bilious” fever, and sometimes it is known as “autumnal” fever or “fall” fever. Some years ago the late Dr. Murchison suggested the term “pythogenic” fever, probably from *πυθών* and *γεννάω*; but it has never come into popular use. The name “typhoid” is inappropriate, for it implies that the fever is like typhus, which is not the case. The term “enteric fever” was adopted by the Royal College of Physicians of London, and is the name officially recognised. It matters, however, little which name is employed, provided the nature of the disease from which the patient is suffering is made clear.

Enteric fever occurs in every part of the world, and there are abundant records of its presence in France, Germany, Russia, Spain, Italy, Turkey, Norway, Sweden, and even Iceland. In India it is far from uncommon, and is often confounded with “remittent” fever. Of the British Isles it is most common in England, more common in Ireland than in Scotland, and in Scotland more common on the West than on the East coast. It is always present in London, and the number of cases admitted into the London Fever Hospital varies little from year to year. It never assumes the form of an “epidemic,” but may be regarded as the “endemic” fever of England. The fever attacks both men and women and nearly in equal proportions. It is met with chiefly in youth and adolescence, the majority of cases occurring between the ages of fifteen and twenty.

It varies greatly in prevalence in different months and seasons of the year, the largest number of cases occurring in October, November, September, and August, in the order here given; and the smallest in April, May, February, and March. Not only does it increase in autumn, but it is unusually prevalent after dry hot summers. It attacks all classes of society, and the rich suffer just as frequently as the poor; in fact, sometimes an outbreak is limited to "people who are in easy circumstances, and who live in the best houses of the town."

It is practically non-contagious, and is very rarely communicated from the patient to the nurses and attendants. In the various hospitals in London the typhoid patients are placed in the general wards, and are not isolated. In rare instances nurses have contracted the fever after being in close attendance on a person suffering from it; but this never occurs if attention is paid to the ordinary rules of nursing. The excrement of the patient constitutes the chief, if not the only, medium of communicating the disease. The fresh stools are harmless, but the poison is developed during their putrefaction. This decomposition may take place in the drains; but it may equally take place when soiled linen is not at once treated with disinfectants.

The germs of the disease are usually conveyed to a patient through the medium of the drinking-water, which has by some mischance become contaminated with sewage. Proofs of the production of typhoid fever by pollution of water-supply are of constant occurrence, and every day adds to the number. As an example a case may be quoted in abstract from the "Tenth Report of the Medical Officer of the Privy Council." Some years ago there was an outbreak of enteric fever at Guildford, and Dr. Buchanan, now Medical Officer to the Local Government Board, was specially appointed to investigate it. He found that during the first twenty-eight days of August ten cases of the disease had occurred in different parts of the town, when suddenly, within the next thirty-three days, the number rose to about 250. As the epidemic was almost exclusively confined to a part of the town which corresponded with a particular section of the public water-supply, suspicions were aroused that this had become polluted; and on further investigation it was ascertained that on a particular day, about ten days before the outbreak, the houses in that part of the town had been *exceptionally* supplied with water from a certain high-standing reservoir, which had previously been filled from a new well. This well was sunk through a porous stratum of chalk, and in close proximity to it were various sewers, one of which was afterwards found to be leaking in several places. There was no doubt, therefore, that sewage had oozed through

the chalk into the well, and had caused the epidemic. An analysis of a sample of the water was subsequently made, the results of which gave unmistakable evidence of previous sewage contamination.

Another outbreak to which reference may be made in illustration of the point is one which occurred a few years ago at Caius College, Cambridge. It was also investigated by Dr. Buchanan, who showed that, although there was always some enteric fever in Cambridge, there was a special incidence of the disease at Caius College, and that it affected especially students occupying rooms in Tree Court. The College was supplied with a constant service of water; but whilst every water-closet in the other parts of the building was provided with its own cistern, those in Tree Court received water direct from the high-pressure constant-service water-pipes. The pipe which supplied the pan of the water-closet also sent a branch to a small trap in the "safe," which received any splashings from the pan, and was so arranged that this trap received a supply of water at the same moment as the pan. A water-valve was provided which was intended to prevent the return of air or fluid either from the pan or the small trap into the water-pipe. Dr. Buchanan ascertained that on occasions the pressure of water had not been maintained in the mains, and that a back current must as the result have taken place: and also that the small trap was liable to pollution from splashings from the larger trap. He found, too, that the water-valve could not be relied on, and that chemical analysis of matter found at the end of the branch-pipe proved that excrementitious matter had absolutely been sucked up into the water-main, and thence been distributed to the pipes supplying water for drinking purposes.

Milk may be the means of conveying enteric fever, just as it may be the means of communicating scarlet fever and diphtheria. It usually arises from diluting the milk with foul water containing the germs of the disease; but it may possibly arise from the typhoid effluvia being absorbed by the milk. Since Dr. Ballard first traced in 1870 an outbreak of enteric fever in Islington to a particular milk supply, and directed attention to this mode of propagation of the disease, a number of other outbreaks have been clearly proved to be due to the same source. In the Islington epidemic—and again at a later date in Marylebone, when another outbreak occurred—there was considerable reason for believing that the milk became contaminated by means of polluted water used for washing the milk-pails—water previously contaminated by excremental matter from a person suffering from enteric fever. Without doubt milk affords an excellent nidus for the development of the virus, which has the power of self-multiplication.

in water; and once given the introduction of the poison in even the smallest quantity into the milk, its further development and influence upon the milk-drinkers is easily understood. In 1881 Mr. Ernest Hart collected and tabulated particulars of fifty epidemics of enteric fever which were traced to milk-poisoning, and since then many others have occurred. The following outbreak merits particular notice on account of its unique character, and as being the first of the kind reported:—During the course of the first week in August, 1882, Mr. George Fosbroke, medical officer of health for the combined Stratford-on-Avon districts, was called upon to investigate an outbreak of enteric fever which had suddenly assumed unusually extended proportions in the town of Evesham and the adjoining neighbourhood. Before the close of September as many as forty-eight cases had occurred in the borough, and twenty-one in the rural districts, five of the former and three of the latter having proved fatal. The suddenness of the outbreak, widely scattered though many of the cases were, pointed to some common cause; and after careful inquiry Mr. Fosbroke discovered that all the patients first attacked had attended a regatta held at Evesham on July 12th; and, further, that they had all frequented a particular meadow adjoining the river Avon. Still more extended inquiry disclosed the fact that all these persons had partaken of spirits, lemonade, or ices, while on the meadow, and that the water used, either for diluting the spirits or manufacturing the lemonade and ices, was obtained from a well which was subsequently found to be contaminated with sewage. In any case, there is no doubt that the water from this well, used for the manufacture of the lemonade, was the cause of the outbreak, and subsequently, by direct or indirect means, affected no less than 113 persons.

We must now consider the symptoms of enteric fever. Its advent is in most cases gradual, so that it is often difficult to determine the precise day on which the patient was attacked. In some instances the first symptoms complained of are irregular chills, loss of appetite, headache, pains in the limbs, giddiness and ringing noises in the head, with or without diarrhœa and sickness. In many cases an attack of diarrhœa is the first symptom, and the patient imagines that he is suffering from some trivial gastric derangement. In addition to these symptoms the temperature is elevated, the pulse is quick, the skin is hot, the tongue is furred and red at the margin, and there may be bleeding from the nose. The patient has disturbed and restless nights, and feels weak and disinclined for exertion. These symptoms may continue for some days before the patient takes to his bed. The evening temperature varies from 103° to 105° Fahr., but is much lower in the morning. At

the end of the first week, or from this to the twelfth day, the characteristic rash appears, but may be readily overlooked. It consists of a few small isolated circular rose-coloured spots, slightly elevated above the skin, disappearing on pressure, but returning as soon as the pressure is removed. They are seen chiefly on the abdomen and chest, and vary in number from half a dozen to fifty or more. During the second week the patient often becomes delirious, the lips are parched and dry, and diarrhœa is almost incessant. Day by day the patient loses flesh and strength, and becomes less and less conscious.

This is the typhoid shape of the disease, and death may result at any moment. In some cases there is no diarrhœa; whilst in others the typhoid stage is not developed, and the mind is clear throughout the attack. Complications of all kinds may occur, and the patient is rarely out of danger until the termination of the fourth week. The disease varies very much in different cases; but the period of convalescence is often prolonged, and it may be months before there is complete restoration to health.

The chart on the opposite page illustrates the range of the temperature in a mild attack.

It would be useless to discuss the question of treatment, for the attendance of a medical man is absolutely necessary. There is probably no disease which requires such careful watching and anxious attention. A nurse, or, better still, two nurses—one for day duty and the other for night—will be required. No solid food of any kind can be given during the whole of the illness, and the patient will have to be fed entirely on beef-tea and milk. It often happens that the patient has progressed favourably until very nearly the termination of the fever, when some injudicious friend, with the best possible intentions, brings a few grapes, which are taken eagerly, with the result that death ensues in a few hours from perforation of the bowel.

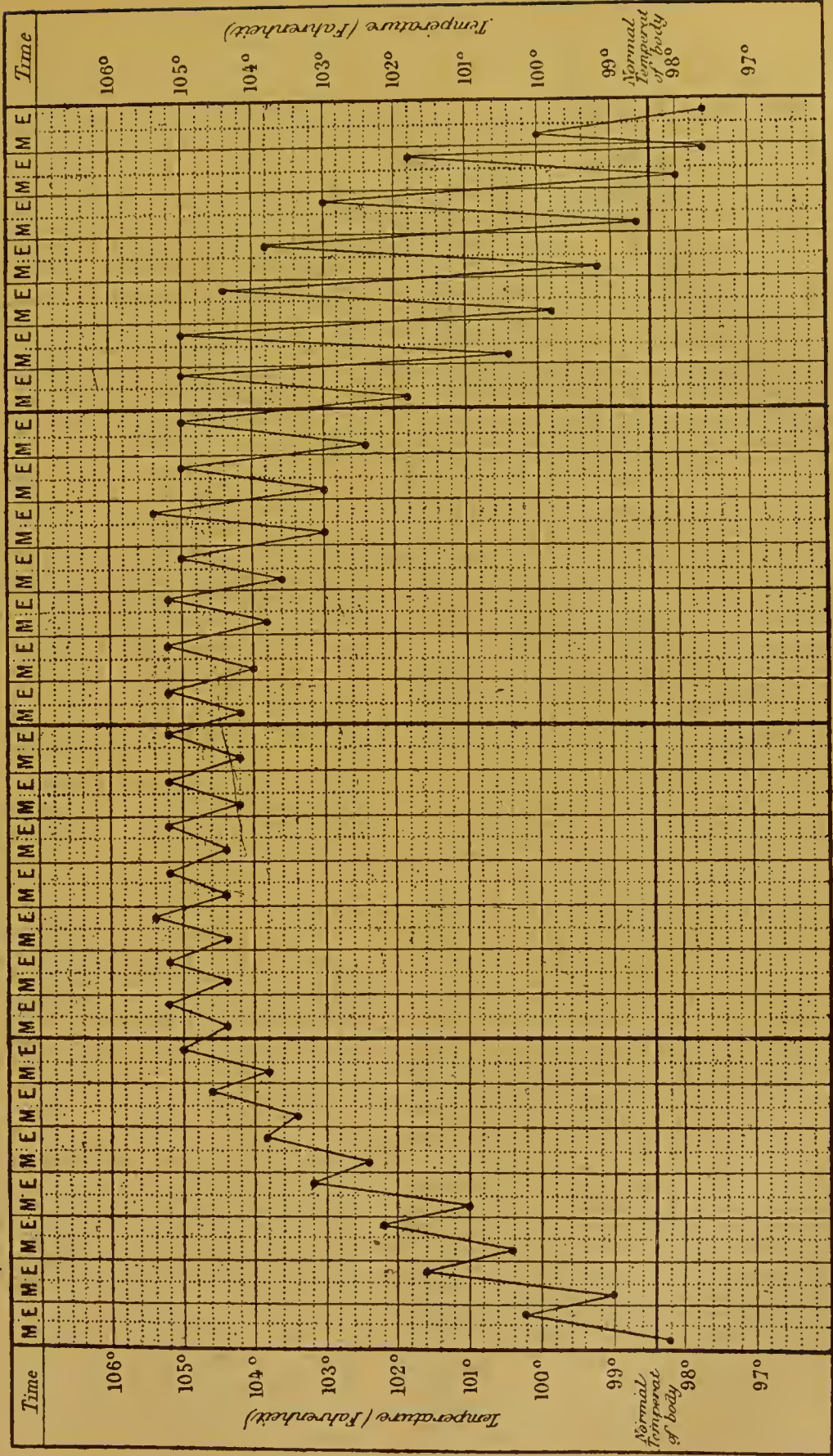
The stools should in all cases be thoroughly disinfected as soon as passed, by mixing them with a strong disinfectant, such as a pint of crude carbolic acid in a gallon of water. In country districts, after disinfection they should be buried deeply in the earth, at a safe distance from the well or other source of water-supply.

If care were taken to prevent the contamination of our water-supply with the excrement of people suffering from typhoid fever, the disease could readily be stamped out, and, instead of causing the death of thousands annually, would be rare and exceptional. Years ago ague was common in London; but as soon as the causes which favoured its production were understood and remedied, it practically ceased, and is now seen in our hospitals only in the case of

CHART OF THERMOMETER READINGS IN TYPHOID FEVER.

Type of a mild and favourable case.

FIRST WEEK SECOND WEEK THIRD WEEK FOURTH WEEK



In the above chart, favourable indications appear in the third week in the reduction of the morning temperatures. The evening readings are more persistent, and a very slight relapse occurs on the fifth day in the third week; but, on the whole, improvement is steady, and the whole range of temperature very regular. This was a very satisfactory chart.

patients who have returned from abroad, or have lived in malarial districts.

The following rules for avoiding typhoid fever may prove useful:—

1. The cisterns in every house should be scrupulously cleaned from time to time, special days being appointed for the purpose, so that it may not be forgotten.

2. Care must be taken that the waste-pipe of the cistern does not pass down directly into a drain, or the water will become contaminated with sewer-gas.

3. When the drinking-water is derived from surface wells or running streams, there must be no drain, or cesspool, or other nuisance near, by which they might become contaminated.

4. Water should be filtered, and care must be taken that the filter itself is clean and free from impurity.

5. Drinking-water should be tested from time to time to see if it is pure. A few drops of Cond's Crimson Fluid should be added to a tumblerful of the water, and if after standing half an hour the pink colour has gone or has turned yellow, it should be sent to an analyst for examination.

6. The house-drains should be kept in good order, free from leakage and obstruction, and with all water-closets, bath-pipes, sinks, and other openings properly trapped. The waste-pipes of all baths, basins, and sinks should be disconnected from the main drain, as well as trapped.

7. The drains should be carefully flushed at least once a week with water containing carbolic acid, permanganate of potassium, chloride of zinc, or some other equally good disinfectant.

8. The milk should be scalded as soon as received.

9. When typhoid fever breaks out in a house, the stools should be disinfected as soon as passed.

10. Bedding and linen soiled with the excreta of the patient should be soaked in a tub of water containing four ounces of carbolic acid to the gallon, and should be boiled before being sent to the wash.

11. An investigation should be instituted into the origin of the attack, so that danger to others may be avoided.

12. Carelessness leading to the propagation of enteric fever should be regarded as a penal offence, and water companies should be made responsible for supplying their customers with contaminated water.

With reference to the propagation of fever and other diseases by milk, it may be useful to remember that by the "Dairies, Cowsheds, and Milk-shops" order of 1879 it is enacted that—

"If at any time disease exists among the cattle in a dairy or cowshed, or other building or place, the milk of a diseased cow therein shall not be mixed with other milk; and shall not be sold or used for

human food; and shall not be used for food of swine or other animals unless and until it has been boiled. It shall not be lawful for any person following the trade of cowkeeper or dairyman, or purveyor of milk, or being the occupier of a milk-store or milk-shop, to allow any person suffering from a dangerous infectious disorder, or having recently been in contact with a person so suffering, to milk cows, or to handle vessels used for containing milk for sale, or in any way to take part or assist in the conduct of the trade or business of the cowkeeper, dairyman, purveyor of milk, or occupier of the milk-store or milk-shop, as far as regards the production, distribution, or storage of milk, until all danger therefrom of the communication of infection to the milk, or of its contamination, has ceased.

"It shall not be lawful for a person following the trade of cowkeeper or dairyman, or purveyor of milk, or being the occupier of a milk-store or milk-shop, to use a milk-store or milk-shop in his occupation, or permit the same to be used for any purpose incompatible with the proper preservation of the cleanliness of the milk-store or milk-shop, and of the milk-vessels and milk therein, or in any manner likely to cause contamination of the milk therein."

It is to be feared that our laundry system is responsible for the spread of a good many contagious diseases. Dr. Richardson says, "In most towns throughout the kingdom the laundry system is dangerous in the extreme. For anything the householder knows, the clothes he and his children wear have been mixed before, during, and after the process of washing, with the clothes that have come from the bed or body of some sufferer from a contagious malady. Some of the most fatal outbreaks of disease I have met with have been conveyed in this manner." He points out that it is incumbent on all who send clothes to a laundry from an infected house to state the fact. The clothes thus received should be treated in a disinfecting-room, and then specially washed, dried, and prepared for future wear.

Small-pox and Vaccination.—Small-pox, known technically as variola, is a very ancient disease, there being a tradition that it was derived originally from the camel. It is known that it attacks many of the lower animals, and in 1847 an epidemic broke out amongst the sheep in this country.

Small-pox is extremely infectious, and clothes that have been worn by a person suffering from the disease may retain the infection for a long time, as may the furniture, and especially beds and bed-coverings. A mild case is just as infectious as a severe one, and the mildest form may give rise to

small-pox of most virulent type. When small-pox breaks out in a community unprotected by vaccination, it usually spreads rapidly, unless immediate steps are taken to isolate those who have been exposed to the contagion.

From twelve to fourteen days elapse between exposure to the contagion of small-pox and the first appearance of the symptoms, the patient being apparently perfectly well during the whole of the interval. There is then severe indisposition for forty-eight hours, after which the rash makes its appearance. The period of incubation and the duration of infection are unusually prolonged in cases of small-pox, as will be seen by reference to the following table:—

	Period of Incubation.	Duration of Infection.
Cholera - - - -	1 to 5 days -	2 or 3 weeks.
Typhoid fever - -	8 „ 14 „ -	6 „
Scarlet fever - -	1 „ 6 „ -	6 „
Diphtheria - - -	1 „ 8 „ -	6 „
Typhus fever - -	6 „ 14 „ -	4 „
Measles - - - -	8 „ 20 „ -	4 „
German measles -	6 „ 14 „ -	3 „
Mumps - - - -	14 „ 22 „ -	3 „
Relapsing fever -	2 „ 16 „ -	4 „
Whooping cough -	4 „ 14 „ -	8 „
Chicken-pox - -	10 „ 14 „ -	3 „
Small-pox - - -	12 „ -	6 „

Small-pox sets in with shivering, fever, thirst, headache, nausea and vomiting, and severe pain in the back. In children, there is not infrequently an attack of convulsions. The rash varies much in character in different cases, so that it is difficult to lay down any general rule as to the appearance it presents. Usually, however, the spots are seen first on the face, head, neck, and wrists, spreading in the course of a day or two to the upper part of the chest, the arms, the rest of the trunk, and the legs. They are hard to begin with, and feel like shot beneath the skin. They have watery heads at first, but soon become pustular, each containing a little drop of matter.

It is not always easy to decide in the early stages whether a patient is suffering from small-pox or some other fever, and yet it is a matter of the gravest importance to make the distinction, especially in the case of servants and people employed in large establishments. There are upwards of twenty diseases which, at different times, have been confounded with small-pox. Measles is far more frequently mistaken for the more serious disease than any other form of illness. In small-pox the eruption follows on the third day, or after forty-eight hours' illness. The eruption of measles, although a little elevated above the surface of the skin, is not so distinctly felt as in small-pox, and always gives one the idea of being more superficial.

In measles there is usually some cough, accompanied by running at the nose, and a peculiar fiery redness of the eyes. As a well-known authority says:—“The lapse of forty-eight hours, after the commencement of the illness, before the appearance of the eruption, the pain in the back, and the shotty feel of the eruption on the skin in small-pox, contrasting with the lapse of seventy-two hours of illness before eruption in measles; the cough, redness of the eyes, and less marked feeling of hardness and prominence of the skin, should be enough, compared with the general appearance of the patient, to distinguish the two diseases.”

It would be useless to attempt any description of the course of treatment to be adopted in a case of small-pox, for the services of a medical man are absolutely necessary, and the doctor should be summoned without a moment's delay.

Persons who have once been successfully vaccinated are practically permanently protected against small-pox. It is true that a small proportion of vaccinated persons will be liable at some period or other of their lives, especially on the occurrence of an epidemic, to take small-pox in a mild or modified form, but the proportion is very small. There is probably no subject on which medical testimony is more unanimous than on the very large immunity from attacks of small-pox which successful vaccination confers. Whilst the mortality of uncontrolled small-pox is seldom below 20 per cent., and often amounts to 30 or 40 per cent., the death-rate among the vaccinated (taken indiscriminately, and without regard to the quality of their vaccination) is usually only 5 per cent., and is often less. For very conclusive evidence on this point we are indebted to Mr. Marson, who has furnished a series of statistics founded on the results of thirty years' observation at the Small-Pox Hospital. At that hospital over 15,000 cases of small-pox have during that time been under his personal care, and all particulars respecting them have been carefully recorded. It has been found that whilst the unvaccinated have died at the rate of 37 per cent., the mortality amongst the vaccinated has been only 6½ per cent. Mr. Marson's observations have also shown most conclusively that the degree of modifying power is in exact ratio of the excellence and completeness of the vaccination as shown by the cicatrices; in other words, that it is directly as the amount of vaccine-marking and as the character of the marks. It should be the endeavour of every vaccinator to produce on the arm of the patient to be vaccinated four or five genuine good-sized vesicles, such as result from separate punctures.

The protective power of vaccination against small-pox extends to every race of mankind, and is seen in

every climate and in every part of the habitable globe. As a result of the wonderful power of vaccination in protecting against small-pox, and the adoption of the practice universally by civilised people, the present average death-rate from small-pox is scarcely one-tenth—and in countries in which vaccination has been most carefully carried out, much less than one-tenth—of what it was at the end of the last century.

People, when they reach adult life, should be re-vaccinated, even when the operation has been effectually performed in childhood. The following memorandum on the subject of re-vaccination has been issued by Dr. E. C. Seaton, of the Local Government Board:—"By vaccination in infancy, if thoroughly well performed and successful, most people are completely insured for their whole lifetime against an attack of small-pox; and in the proportionately few cases where the protection is less complete, small-pox, if it be caught, will, in consequence of the vaccination, generally be so mild a disease as not to threaten death or disfigurement. If, however, the vaccination in early life have been but imperfectly performed, or have from any other cause been but imperfectly successful, the protection against small-pox is much less satisfactory; neither lasting so long, nor, while it lasts, being nearly so complete, as the protection which first-rate vaccination gives. In consequence of the large amount of imperfect vaccination which has till very recent years existed, the population contains very many persons who, though nominally vaccinated, and believing themselves to be protected against small-pox, are really liable to infection, and may in some cases contract as severe forms of small-pox as if they had never been vaccinated. Partly because of the existence of this large number of imperfectly-vaccinated persons, and partly also because even the best infantine vaccination sometimes in process of time loses more or less of its effect, it is advisable that *all persons who have been vaccinated in infancy should, as they approach adult life, undergo re-vaccination.* Generally speaking, the best time of life for re-vaccination is about the time when growth is completing itself (say, from fifteen to eighteen years of age); and persons in that period of life ought not to delay their re-vaccination till times when there shall be special alarm of small-pox: first, because they can never tell how soon or by what chance they may (even at times when there is little prevalence of that disease) be exposed to its infection; and secondly, because of the much more advantageous conditions under which the re-vaccination can be performed when it can be done leisurely than when it has to be done under the pressure caused by a panic. When, however, small-pox

becomes epidemic, not only should all persons above fifteen years of age (who had hitherto neglected to have themselves re-vaccinated) be very careful to neglect it no longer, but in proportion as there is prevalence of small-pox in any neighbourhood, or as individuals are from personal circumstances likely to meet chances of infection, even the age of fifteen should not be waited for, especially not by young persons whose marks of previous vaccination are unsatisfactory. *The rule applicable to circumstances of special danger is this: that every one past childhood on whom re-vaccination has not before been successfully performed, should without delay be re-vaccinated.*"

Of the efficacy of vaccination there can be no possible doubt. Mr. Marson tells us that in thirty years no nurse or servant at the Small-Pox Hospital has contracted small-pox, he having taken care always to re-vaccinate them on their coming to live in the hospital; and, further, that when a large number of workpeople were employed for several months about the hospital, most of whom consented to be re-vaccinated, two only were attacked by small-pox, *and they were amongst the few who were not re-vaccinated.* An attempt has been made to invalidate this important evidence on the faith of an anti-vaccinationist who stated to the Select Committee appointed to investigate the subject that when he went to the Small-Pox Hospital the door was opened by a nurse who was pitted with the small-pox; but inquiry showed conclusively that the woman came to the hospital originally as a patient suffering from small-pox, and that she was subsequently engaged as the matron's housemaid, and in course of time promoted to the position of nurse. The accuracy of Mr. Marson as an observer and recorder is beyond question, and it is not in the least likely that he should have made an error of the kind attributed to him.

It is often stated that vaccination engenders other diseases; but there is practically no truth in it. It has been said that it "lies at the foundation of the shameful mortality from whooping-cough;" but, as has been pointed out, "one might as well say that it caused chilblains, or lay at the root of the Afghan War." It is said, too, that vaccination is responsible for the prevalence of syphilis in this country: but during the twenty years in which there has been systematic inspection of public vaccination in England some millions of vaccinations have been performed, but in no single instance have the Government Inspectors of Vaccination been able, after the most rigid inquiry, to find even one case of syphilis after vaccination. Sir William Jenner states that during six years at University College Hospital, and at the Hospital for Sick Children, he

had more than 13,000 patients under his care, and that in no case had he reason to believe, or even to suspect, that any constitutional taint had been conveyed from one person to another by vaccination.

Mr. Ernest Hart, in his admirable pamphlet entitled "The Truth about Vaccination" (published by Smith, Elder and Co., 15, Waterloo Place, London, price 1s.), gives an admirable *résumé* of the present state of our knowledge respecting the influence of vaccination on small-pox. He says:—

"1. Small-pox in its natural state is one of the most loathsome and terrible of human diseases, attacking a whole population indiscriminately, and killing a very large proportion of those it attacks.

"2. Those who recover remain for life disfigured by scars and pittings, are left consumptive, weakly, or maimed, and may either totally or partially lose their sight or hearing.

"3. The characters of small-pox when uncontrolled by vaccination still remain the same, as is evidenced by the present mortality from it amongst unvaccinated persons.

"4. Vaccination, without endangering the life of the individual submitted to it, and without diffusing any infection, entirely and permanently exhausts the susceptibility to small-pox in the vast majority of those in whom it has been properly performed.

"5. The objections raised to vaccination have no foundation in fact, and are disproved by the whole of the evidence on the subject.

"6. There are absolutely no grounds for the statement that vaccination introduces the matter of diseased animals and children into the blood of healthy children, or that vaccination is mainly derived from small-pox inoculation of calves and heifers, or that vaccination breaks the law forbidding inoculation. The lymph used in vaccination is the product of the vaccine disease, and cannot of itself produce any other disease.

"7. The whole current of medical opinion is against the hypothesis that vaccination renders persons more liable to other diseases than small-pox, or that it communicates other diseases; and this has been endorsed by a Committee of the House of Commons after a most patient hearing of the anti-vaccinators. The increase of deaths from particular causes is in all probability due to the greater precision in the diagnosis and certification of fatal diseases, rather than to their actual greater fatality.

"8. No case of syphilis caused by vaccination has ever been discovered by the Medical Department of the State during the twenty years that it has supervised the vaccination of the kingdom. Parents have obvious self-interested motives in ascribing the appearance of this disease in their children to the results of vaccination.

"9. The danger (if there be any at all) of communicating in a properly-conducted vaccination any other infection than vaccinia is so infinitesimally small that for all practical purposes it may be regarded as non-existent.

"10. The small-pox death-rate has been greatly diminished since the introduction of compulsory vaccination. The small-pox fatality in England and Wales has declined, since the passing of the first compulsory Vaccination Act, to less than one-half of that recorded before the passing of that Act.

"11. In every epidemic of small-pox the proportion of unvaccinated persons attacked (relatively to their numbers) is very much larger than the proportion of vaccinated persons attacked. The number of attacks of persons efficiently vaccinated and successfully re-vaccinated is extremely small.

"12. The degree of severity which post-vaccinal small-pox may manifest is chiefly determined by the perfection of character and the sufficiency of amount of the vaccination that has been performed. Even when the vaccination has been most imperfect, leaving but a single mark of indifferent character, the disease is still in most instances modified in its course, and is not fatal in one-third the proportion of cases in which natural small-pox is fatal.

"13. When the vaccination has been done in the best known manner, the modification is so general and so great that the proportion of deaths to attacks is scarcely more than one-seventieth part of that which occurs in the natural disease.

"14. In cases where the vaccination in early life has been but imperfectly performed, or has been from any other cause but imperfectly successful, the protection against small-pox neither lasts so long nor (while it lasts) is nearly so complete as the protection which first-rate vaccination gives. It is, therefore, advisable and prudent that all persons who have been vaccinated in infancy should, as they approach adult life, undergo re-vaccination.

"15. Re-vaccination, once properly and successfully performed, does not appear ever to require repetition, and is an almost absolute protection against small-pox. By universal re-vaccination, small-pox has been virtually stamped out of the navy and army.

"16. A strict enforcement of vaccination in early infancy, and a general system of re-vaccination at puberty, with scrupulous care as to the complete and perfect performance of the operation, would reduce to an insignificant fraction of its present amount the still considerable small-pox mortality of this kingdom."

The following is a summary of the laws relating to vaccination:—Every child must be vaccinated before it is three months old, either by a public

vaccinator or by a private medical practitioner, unless the vaccination be postponed by a medical certificate, in case the child be not in a fit state to be vaccinated.

The registrar of births is required, within seven days of the registration of the birth of a child, to give a notice to the parent, or other person having the custody of the child, requiring the child to be duly vaccinated, and specifying the time when and the place where the public vaccinator of the district will attend for that purpose.

After the vaccination has been performed the child must be inspected by the vaccinator, in order that, if the operation have been successful, he may fill up and sign the requisite certificate. When the vaccination has been performed by a public vac-

cinator, the child must be taken to him for inspection on the same day in the following week. In the case of vaccination by a private practitioner, the certificate (which is post-paid and addressed), when duly filled up by him, must be transmitted to the vaccination officer by the parents—the penalty for failing to do so is twenty shillings.

Supplies of either humanised or animal lymph are furnished to *medical practitioners* on application in person or by letter at the Vaccine Department, Local Government Board, Whitehall, London, S.W.

Diphtheria, and even quinsy, might with propriety have been included under the specific fevers; but as a chapter is set apart for diseases of the throat and chest, it will be more convenient for reference to refer both complaints to their local classification.

OUTDOOR GAMES AND EXERCISES.

IN treating briefly of the leading features in those outdoor games and pastimes which are of a less distinctly athletic character than those mentioned in a previous article, we would take the opportunity of saying that ordinary boys' and girls' *school-games* deserve more encouragement than they often receive. Times are greatly changed from what they were in the boyhood of our present middle-aged people. The cities have become so much greater, the country is often now so far off from city children, and space is so valuable, that there is real danger of many children almost forgetting *how to play*. In many places it would be well for the teachers themselves to look up and learn the principal playground games, so as, if necessary, to teach them to children who have never learnt what they were. Lessons would be better done, play-hours better utilised, health improved, and the teachers' work itself greatly lightened. We are sure the subject is well worth consideration in large towns; but we cannot enter into it further here, and must pass on to describe the main characteristics of the principal outdoor games and recreations which can be shared in by children of a larger growth.

Lawn Tennis.—We mention this game first because it is so essentially a family pastime; for whatever the game of the future may be, or however soon tennis may become as old-fashioned, not to say obsolete, as croquet itself, it is at the present day first favourite with both sexes and all ages. Perhaps it is the very fact that the pastime is suited for *every one*, which makes it so generally popular. Father and mother, racquets in hand, may appear on

the grass, sisters and brothers may play, and visitors are always made heartily welcome and asked to join.

We have heard it said that tennis will yet oust cricket from the field. We have little to fear on this score. The grand old game has taken firm hold on the national heart, and if the battle of Waterloo was won on the playgrounds of Eton and Harrow, many another battle will be won on the same lines. But each game has its peculiar advantages. Than tennis we know of no sport much better calculated to develop and harden the muscles of the limbs, or to increase lung-power. And the game possesses many other advantages, as we shall presently see.

When about to take a hand at tennis, it does one no harm to remember that it is, after all, but an old sport revived, and, we may add, very much improved. Ball-games date back to the days of Troy, and were introduced into this country probably as long ago as the latter end of the thirteenth century. Tennis, played with the hands instead of racquets, seems to have been a favourite pastime with, first the Greeks, and then the Romans. In France, too, in the fifteenth century the game was played—*jeu de paume*—first with the bare palm, then with a glove, lined or unlined. But it must have found favour with the fair sex even at this early date, for mention is made of a French girl who played even with the bare hand better than any man could play. It was, no doubt, the practice of binding the hand with cords or tendons, to insure a better rebound, that first suggested the racquet. Henry VII. and Henry VIII. were both very fond of tennis, and used to come out in splendid and appropriate costumes. In the

sixteenth century tennis was firmly established as one of the royal games of England. The tennis courts, however, were certainly not so scientifically constructed as ours, although every noble or aristocratic family possessed one. They were divided in the centre by a rope, the players being on either side, and the game was to send the ball backwards and forwards over the line without letting it fall, or striking it under the line. It is interesting to read of Bluff King Hal, in the thirteenth year of his reign, playing, with the Emperor Maximilian as his partner, against the Prince of Orange and the Marquis of Bradenborough, the Earl of Devonshire scoring on the Prince's side and Lord Edmond on the other; and to be told that they departed even-handed after eleven rounds fully played.

It was probably the expense of erecting courts in which to play tennis, that caused the game to lose hold of the national taste; the inventor of the modern game of lawn tennis may therefore claim considerable honour for its revival on so simple and inexpensive a plan that it is brought within the reach of even the humblest country cottager. Yet the following extract leads us to believe that even tennis on the *lawn* is of great antiquity:—"When the Earl of Hereford entertained Queen Elizabeth at Elveham in 1591, ten of his lordship's servants, in a square green before her Majesty's window, did hang up lines, squaring out the form of a tennis court, and making a cross-line in the middle, and played five to five with hand-ball."

Lawn tennis is notably a summer game, and for health's sake the lawn on which it is played ought to be dry. We can hardly consider, however, a good country house complete without a hard or asphalt court, as well as the well-kept grassy lawn. Then the game can be enjoyed all the year round, whenever the weather makes it enjoyable. When played on the grass, the condition of the ground cannot be too carefully seen to. No one can be certain of making anything like good play if it be uneven, or cut up, or if the grass be not level. Lawns, whether private or public, should be very frequently attended to, watered and mowed and rolled till they present a surface almost as green and smooth as that of a billiard-table. Neglect in the matter of attention for even a few days may result in much annoyance to the players.

The rules of the game the reader is doubtless well acquainted with. They are those adopted by the All England Lawn Tennis Club and the Marylebone Club, &c. For the single-handed game the court is required to be seventy-eight feet long by twenty-seven feet wide. This is, of course, the actual playing-ground, although smaller courts may be used—not advantageously, however; for small courts

usually mean cramped marginal space around, and consequent want of that freedom which is at least essential to pleasurable playing. It certainly is an advantage for the residents of a house or cottage to have their court in their own grounds; but if bushes, hedges, or flower-beds bound it, the want of room will be seriously felt, and it would then be better if possible to have the court in some adjoining field.

In country villages and towns a small tennis club is easily got up, without any loss of cash to any one; and the expense is but trifling when divided among the members.

As to racquets, although these may be common to all, we advise members to be as particular as billiard-players are with their cues. There is no need to own a highly ornamental racquet; but let each player have his own; he will play better thus, if well suited. The weights vary somewhat, and should suit the strength of the individual as well as his style of playing. The usual weight is fourteen ounces, but one of an ounce heavier may be sometimes useful; on the other hand, a racquet weighing thirteen ounces or less will be approved of by many, especially ladies and elderly people. With such a light racquet, one can play longer without feeling fatigued; and no one will deny that fatigue is sometimes inseparable from a long spell at tennis. This is not desirable, for all our recreative exercises should fall short of the boundary-line of positive tiredness. On the other hand, if the game is "gone in for" with regularity day after day, one soon gets over the first feelings of fatigue; and this is only a proof that playing is then doing good to the whole frame, and to the internal vital organs as well, notably the heart and lungs. A little practice, however, will finally determine one's choice as regards both weight and shape. And it is not the best racquet that makes the best player.

The balls are either covered or uncovered, the former being used on dry ground, the latter on wet; so that those of both sorts must be bought and used in practice. The weight is determined by club rules.

Asphalt courts are usually marked with lime, and grass with chalk or whiting cream. The plan of stretching tapes across, and fastening them down with hair-pins, is often adopted. It has its advantages and disadvantages—the latter being that they get loose and catch the feet, or dirty and not easily seen. Chalk or whiting is better, we think, in every way; but a set of tapes, with the lengths ready marked off by brass rings, are often handy during a holiday, enabling a temporary court to be laid out in ten minutes, if a piece of flat fine turf be found available.

Beginners should study the game a little before

appearing in the court; they will thus, at all events, have mastered the rules and terms used in play, but, of course, experience alone will make a good player. On watching the play of some noted champions, one's own skill feels dwindling to insignificance. Watching great players is, nevertheless, much to be recommended. We learn lessons and manners of playing that can be acquired in no way else, and if we are at all enthusiastic we are not likely to forget them. Whatever is worth learning is worth learning well; and so we counsel enthusiasm, not only in lawn tennis, but in every other game. For games are meant to ease the mind, as much as to exercise the body, and the more completely we throw our minds into our play, the more shall we forget the worry of business life and the drudgery of desk, or office, or counter.

One needs a good heart and no small amount of ambition in his nature to become an expert lawn-tennis player. Practice only is our best friend. We must exercise a quick eye and an active body. There is a good deal to be said for practice alone with another novice; and serving can and should be practised specially and continuously till some certainty is attained. Every one can at least learn to serve, if he will practise for it; and it is of the utmost advantage to a player to learn to serve well. A beginner cannot, therefore, devote too much attention to practising services, which can be done even alone. It will be for the advantage of novices at all events, to avoid fancy strokes, and learn to serve steadily, evenly, and at first well over the net, but as soon as possible getting to a smart and low service. Certainty, however, is the main thing; one so often sees players trying to serve low overhand strokes, and striking the net in the majority of their attempts; yet this is just what a little steady practice of services will teach a player to avoid. By serving overhand, there is a point on the other side of the net, depending on the player's height, within which the ball cannot be delivered; between that and the farthest corner of the court, he ought to be able to deliver at any point desired with fair accuracy, and without much danger of a "fault." Such services almost always score in what may be called average play. The "simple feed" style is not much seen nowadays, although there may be occasions when it can be used to puzzle an adversary. The "screw" is not so killing as many think, and very difficult services may be given without it. As an occasional stroke, it may be telling enough at times, if properly given, but it is, at the same time, a somewhat risky stroke. Old and experienced players learn to vary their style of serving with every ball; but any well-placed ball steadily and swiftly served may be effective, whether

it be under-hand or high stroke; and a service with only one style of stroke, if certain and accurate, is first to be recommended—at least, for the beginner, leaving others to be adopted only as far as his practice can make them similarly reliable. The server should not under-rate his adversary, and must be always prepared for a return.

With regard to returns, the player must, of course, study the ball, and he cannot do this with advantage, nor be properly prepared, if he stands too far forward. He may lose time in having to run back. He should also stand more to the left than right. The old plan of standing up to the net has been gradually abandoned, from experience, by the best players, as a system of play. Excitement must be guarded against; for this results in many a miss, and still more often in hitting the ball "out." One should learn to stretch well; we have not to stop the ball with our bodies, but with the racquet. It is wonderful what a long reach a player of supple and lithe form can make; it is only exceeded by that with the rifle and bayonet, which, as every volunteer knows, is very long.

Lawn tennis is a very pretty game, and shows attitudes of grace in either man or woman; at the same time, form must be considered a secondary matter entirely. The player must concentrate his whole mind and thought on the *game*, and on nothing else.

But little need be said concerning the dress of gentlemen players. The sensible rule is that they should be suitably shod and "socked," and dressed to suit the season. The clothing must be somewhat warmer for winter on wood or asphalt courts than that for the summer lawn. But even in summer wool is not to be discarded, or its great advantages disregarded. An easy wrap or muffler for the neck and a very light cap completes a man's costume, the jacket he wears over his flannels being as gay as he chooses.

Women are somewhat handicapped, Dr. Mary-Walker is not yet having found favour in this country. Combination garments may be but hinted at, because ladies have already learned to appreciate their ease and comfort. As for actual costume, there is not the slightest reason why this should be unbecoming. Nor is it often so; and we cannot imagine a prettier sight than a group of artistically-dressed girls at play on the lawn on a summer's afternoon. The attitudes that have to be assumed during the game, too—while serving, or reaching out, or moving rapidly from position to position—are often picturesque in the extreme, to say nothing of the heightened glow on girlish cheeks and the glad sparkle in bright young eyes, all the scene and surroundings, the soft smooth lawn, and greenery of waving trees, lit up perhaps by the sweet summer sunshine.

The advantages of physical and recreative exercises to young girls cannot well be over-rated. Lawn tennis combines engrossing amusement with healthful exertion. It is impossible for a girl while playing—especially if with good companions—not to become, for the time being, enamoured of the game. If she has previously been confined for hours to the house, if her studies have kept her up so late at night that her back aches and her head and eyes are heavy, what more refreshing than an afternoon spent on the lawn, racquet in hand? How balmy and fresh the air feels, how soothing even the sun's rays! Every limb is exercised far more rationally than could be done by dancing, back and neck lose all sense of wearying stiffness, while the mind becomes as buoyant and light as that of a lamb's. Is it any wonder that such exercise gives her an appetite for dinner and for healthful sleep at night?

The standard of a young lady's education is nowadays very high, and while it is calculated to improve the mind and teach thought, it has the reverse of a salutary effect on the body. But the *mens sana* cannot be possessed without the *corpus sanum*, and thus we are heart and soul with those who advocate wholesome and pleasant exercise at ladies' schools and colleges. One of the best forms of such exercise—if, indeed, not *the* best form—is lawn tennis; for by its means hand will go with heart in the most scholarly girl, body with soul, and neither will be cultivated at the expense of the other.

Lawn tennis is, moreover, eminently a social game. It is a hearty one, too, and a game from which pleasant conversation need not be banished. Often a game of reunion also, at which brothers and sisters, cousins and aunts, may meet, and, braced by the open air and exercise, spend a far more pleasant time than would be possible whilst engaged in any indoor pastime, or tea-drinking in the most artistically-furnished drawing-room. Out on the grass all the conversation is natural; kindness of feeling and good-nature seem born of the game, and etiquette is a plant that needs no forcing. Inasmuch as the sexes mingle here at play, the influence for good is greatly extended. That of woman, with her gentle nature, is certain to dominate and refine the minds of the sterner sex. From such intercourse friendships are formed that oftentimes lead to love and to marriage; and probably men and women can have no better opportunities anywhere of judging of each other's character and temper, than on the tennis lawn. Nor is the gain from such intercourse altogether on the side of the men; for if their minds be refined therefrom, those of women may surely be strengthened. *Pater* or *materfamilias* may benefit from the game also, and gain health and strength while they encourage the young folks, being at the same time a

barrier, if such indeed be needed, to any excess of merriment.

On the whole, then, we cannot too highly commend the eminently family and friendly game of tennis, in which such skill and quick judgment are needed, combined with nerve, activity, and the best of staying-powers; in a word, all the attributes of mental and physical health.

Battledore and Shuttlecock.—This is an excellent game if played out of doors—on a lawn, if the grass be not wet. It is usually considered quite a children's pastime, but children of larger growth may often engage in it with advantage. We claim for it that it is exhilarating and absorbing, and that it is capital exercise for the muscles of the limbs and chest as well. It also tends to increase the lung

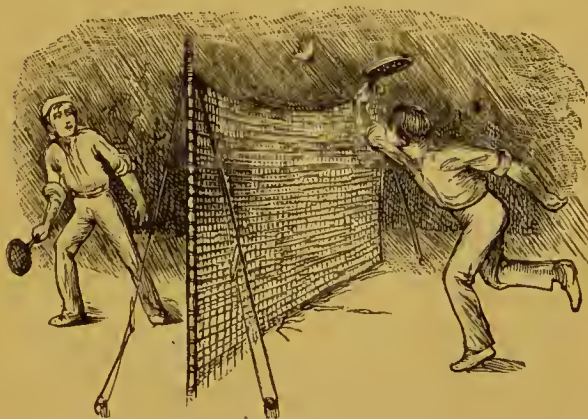


Fig. 1.—BADMINTON.

power. Without crossing the boundary line of fatigue, therefore, even the most delicate boys or girls may play with the very best results.

A lad with a slight turn for mechanics can easily make the battledore and the shuttlecock, but it is better to purchase both. We should not advise the ordinary toy-shop parchment-covered article, but one having a resemblance to the racquet for lawn tennis. A racquet is not only more effective, but does not make such a noise. The game is simplicity itself. The shuttlecock is merely thrown into the air, and kept rebounding from the battledore as it falls. If several players are engaged, and if they be at all clever at the game, two shuttlecocks may be used; and those engaged should be stationed equi-distant round the grounds, striking time about as the shuttles fall.

Badminton is practically battledore and shuttlecock played with proper racquets across a net, according to certain rules. The size of a court is generally 42 feet by 20 feet, and the net, when the

game was orthodox, was five feet high. The shuttlecock must be served so that, if it falls, it is *outside* a service-line on the other side of the net; and of course all returns must be made on the volley. These are the chief differences between Badminton and Lawn Tennis, to which it has some resemblance, and which probably grew out of it. Badminton was getting very popular until overwhelmed by the nobler and better game to which it partly gave rise; and it is still worth a place, firstly, as simpler and easier—in fact, it may be very useful as simple and easy practice towards that quickness of hand and eye which lawn tennis requires—and, secondly, because it can be played with spirit in a large empty room in winter weather. It is believed that some tennis champions “keep their eye in” during dull winters by an occasional turn at Badminton, which has been even played by gaslight. One great defect of Badminton as an outdoor game is the effect of wind upon the shuttlecock.

Croquet.—This is a “mild” game in which some degree of skill is needed, that well suits it for an outdoor pastime in the simplest sense of the word. It is not without its advantages, however, from a social point of view, and we think, therefore, it still deserves some meed of popularity. For quiet country families it is to be recommended, for the play-grounds of girls’ schools, and, we may add, of convalescent hospitals. It affords opportunity for friends to meet in a pleasant recreative way out of doors, and pass an afternoon which might otherwise be a weariness; it gives time for friendly chat, and exercise, for young people not over-robust, and therefore incapable of joining in games, like tennis, requiring a greater degree of strength. And, to cap all, it is played in the open air.

Archery.—The pastime of archery is a very ancient one. In olden times, indeed, it was a game of war, and the English armies in their battles with the Scottish had many regiments of bowmen. Archery is very fascinating, and it is owing, perhaps, to the sort of wild freedom the exercise involves, and to a kind of halo of romance which surrounds it, that it still holds its own as one of our best outdoor games.

The annual exhibition of archery at Harrow school, where, in the sixteenth century, this pastime was a branch of education, must have been a fine sight. The pupils had to contend for a silver arrow; the competitors—chosen from among the best bowmen in the seminary—were dressed in coloured satin; every hit was cheered by the music of hunting-horns, the winner of the arrow headed a procession homewards, and the gaieties of the day

culminated with a ball in the evening, at which, no doubt, the winner was the hero.

As a healthful social pastime the points that may be scored for archery are these:—First, the sport is carried on out of doors, in the green fields, in the woods, or on the hills, and thus all the benefits of fresh air are attained; secondly, as an exercise it ranks high, bringing into play nearly every muscle in the body, and that, too, without an undue amount of fatigue; thirdly, it exercises the brain and the eye at the same time, and there is just that spice of excitement about it, which is needed to cause one entirely to forget, for the time being, all home worry or office cares and drudgery; and lastly, it brings friends and families together in a species of friendly rivalry that is good for all, and affords a theme for conversation afterwards, which is certainly better than gossip.

That archery increases the strength is plain enough; it is proved from the fact that one soon needs a bow that he could hardly have bent at first.

Concerning the implements of archery: first, there is the bow itself, which may be made of yew or lance-wood. Boys or youngsters can make their own, but they must have a pattern; and when they can shoot a little, they should invest in the right article properly made. Bows are tested and marked according to the weight required to pull them, and may be of any strength—from twenty to one hundred pounds or over. They are from five feet to six feet long, tapering from the centre or handle; the outer side or back flat, the inner side or belly round, and the ends pointed with horn, in which are the notches for the string. The bow should be carefully put away in a damp-proof bag when not in use, and frequently polished with oil. As to the strings, and stringing the bow, the beginner should take a lesson or two from an archer; and so, too, about handling the arrows, the feathering of which is of much importance. Arrows are usually made of deal; but ash, lime, or even poplar, are sometimes used. The quiver is a tin case, in which the arrows are carried by means of the belt. There is also a shooting-glove, and a bracer or leather guard for the left arm. Ocular demonstration will show what these are, and their uses, better than pages of verbal description.

Targets may be made or bought. As used at matches and in private grounds, they are circles of plaited straw, covered with canvas. The centre round spot is seven inches across, and gilt. Round this is a red circle, then a white, next a black, and lastly white again. The values of these are as follow: centre 9, red 7, inner white 5, black 3, outer white 1. At matches cards are carried by both ladies and gentlemen, and marked after one end has

been played. The arrows ought, therefore, to have some distinguishing mark. Two targets are used, the competitors shooting from near one to the other till an "end" is finished.

The five points in archery are, according to ancient Ascham, (1) standing, (2) nocking, (3) drawing, (4) holding, and (5) loosing. Correct attitude in standing is very important, and should be studied by beginners from those who are adopting in the art. It is a straight erect attitude, though by no means a stiff one, the weight of the body resting about equally on both feet, which should not be too far asunder. (Fig. 2.)

In drawing the bow the arms must be steadily raised, the left hand thrust forward, and the arrow drawn with the right hand towards the ear, not



Fig. 2.—THE ATTITUDE.

towards the chest. Having nocked the arrow, and begun to draw, the eyes must now be fixed steadily on the gold centre of the target, and on nothing else.

The glove is made with three fingers, because drawing is usually done with three; and one should not hold long. As to loosing, or letting fly, Ascham says, "It must be performed much in the same way as holding—so quick and hard that it may be without any twitches; so soft and gentle that the shaft fly not as if sent from a bow-case." The mean betwixt both, which is perfect loosing, is not so hard to be followed in shooting as to be described in teaching. For clean shooting, you must be careful not to hit anything about you; and remember to hold your hand always the same height on your bow, that you may keep the length truly."

Accuracy in shooting can only be obtained from long practice. And patience must go hand in hand

with practice; while all careless habits must be most strenuously avoided. Hansard advises that the first distance should not exceed ten yards, and practice should be kept up till one is perfect—say, in a month or six weeks. The target may then be removed to twenty yards, and finally to the farthest range of the bow. The point-blank range is, however, a very short one; and, therefore, allowance must be made for the curved flight of the arrow by shooting upwards. Experience and practice alone can aid one in finding the proper elevation. Allowance must also be made for the force of any wind that happens to be blowing while one is at practice.

But it is in conquering these varied difficulties that the chief charm of archery lies. It is eminently, therefore, a game of skill, and one that healthfully absorbs the whole attention.

Hockey.—In one form or another this is one of the most ancient ball-games we have any history of; indeed, a game of a kindred nature was played by the Romans at the time of the invasion of 45 B.C. The name "hockey," as in its modern form the pastime is now called, is said to be derived from the hook in the stick or club with which it is played. In some places it is called "hawkey," "hookey," or "horkey"—mere provincialisms; while in the far North of Scotland "shinty," or "shinny," is the name given to it. In its simplest form it is there quite a schoolboys' game. Two goals are marked out at a distance agreed upon. Sides are arranged, any number being able to join, although they are handicapped as to weight and age. Each player is armed with his "shinny"—a club cut from some neighbouring wood while the keeper has been at the other side of it. The shinnyies have the proper curve at the end, and are moderately heavy. During the game the name "shinny" is at times found to be painfully expressive. The ball is struck from one goal by the best and strongest player of the side that has won the toss, who drives it as far as he can, after the manner of a golf-player, and the game then begins.

Although highly exciting, yet, owing to its very simplicity, there is less verbal wrangling displayed in playing the game than in most others. Perhaps it is this simplicity that prevents it from being so fashionable with some athletes, as it otherwise might be. It deserves encouragement at schools, however, if only from the fact that the youngest lad or merest novice can find a place on one side or the other.

But hockey has been elevated from the rank of a mere school-game, and now takes a prominent place among the outdoor pastimes of this country. There is a Hockey Association, for which all clubs playing the H.A. rules are eligible for

membership. The maximum length of the ground is 150 yards; its breadth, 80 yards. The minimum length and breadth are 100 yards and 50 yards respectively. The goals are upright posts six yards apart, with tapes across seven feet from the ground. (But at many schools the ground is always 120 yards long by 24 yards broad; the goals 11 feet high, 18 feet apart, and with a cross-bar 10 feet from the ground.) The sticks are of wood, curved and clubbed; and the ball is the same as that used at cricket, but painted white. A ball may, however, be an india-rubber one, or wood, or of something not easily broken, and not too heavy, though solid.

The ball can be caught or stopped, but it must not be kicked. This is a rule to which there is one exception—"a goal-keeper may kick the ball in defence of his own goal."

"Side-lines" is the name given to the long sides of the ground, the shorter being called the "goal-lines." On the inside or front of each goal-line, and 15 yards from it, is a line 12 feet long (in ground 100 yards by 50 yards), the ends circling round to the goal-lines. This space is the "striking-circle;" and to score a goal a ball must be driven under tape or bar, from some point within this circle.

The game is commenced by the "bully" from the centre of the ground. It is played only from right to left; and no rough play is permitted, in the shape of tripping, shinning, collaring, or charging, and no back-handed play.

The science of the game is similar to that of Association Football—such as *dribbling*, or, when hard-pressed, *passing*; in fact, it is sought to make the game one of skill rather than of brute force and selfish playing. The rules of the game can be had from the office of *The Field* newspaper, London.

Hockey on the Ice is a splendid game, but played more loosely and fast. Sometimes no goals at all are used. When they are, if there be ice enough, they should be from about 200 to 300 yards asunder, and some 20 feet or more apart. The sticks may be up to six feet long, and the ball from six to seven inches in circumference, and either of good cork or gutta-percha covered with india-rubber.

The better the ice, the better the game; and the safer and stronger the skates, the better. The ice should be strong and safe, at all events; for the excitement is very great when playing this mad game of hockey, and the danger at times by no means small.

Hurley.—This is an Irish modification of the game of hockey; but there is considerable difference. Instead of a stick or shinny, what is called a "hurl" is used. This is a sort of bat made from well-seasoned hard tough wood, such as ash. It has

a blade two inches deep, and is a very powerful "plant" indeed.

The Irish Hurley Union has its rules, which must be strictly adhered to by all members.

Hurley is like *La Crosse* in one way: the ball can be carried on the bat, and this forms its chief distinction from hockey as played on this side of the Channel. The hits, or drives, are longer and stronger than those of hockey, and the carrying part of the game is most exciting, both for spectators and players. The game is played all over Ireland, and in many places rivals even football.

Golf.—Till within recent years golf, the national summer game of Scotland, was but little known or appreciated in other countries. We have now, however, golf clubs and golf "links" in many parts of England, and abroad also. The word "links" is not correctly translated by the English term "common." "Downs" is a better word; but a "links" is a long stretch of rough or smooth grassy land by the sea. Though covered with "benty" grass, it is really a stretch of sand reclaimed from the sea by natural process, as witness the links at Aberdeen, Yarmouth, and that between Sandwich and Deal in Kent.

The game of golf looks far from an interesting one to an outsider. We have heard a spectator say with reference to a player, "Whatever is he driving at?" and another ask the umpire, "Who has made the biggest score?" Both questions can be answered in one sentence. The game is simply to drive the ball from one hole to another round the links into a final hole or gaol, in the fewest number of strokes, so that it is the *lowest*, not the highest,



Fig. 3.—DRIVING.



Fig. 4.—GOLFING IMPLEMENTS.

1, Play-club; 2, putter; 3, spoon; 4, sand-iron; 5, cleek; 6, niblick.

score that wins—*i.e.*, the player who holes his ball with the fewest number of strokes. Now the holes may be from four to five hundred yards apart, and even after a first successful stroke from the tee, the player will have to use his driver again to get up. The ball may fall in many awkward places, too, as into a pool, or rabbit-hole, or in the middle of a hedge, or a clump of gorse; and the player's skill will be shown in extricating it from these "hazards," as they are called; and for this he may need to call on his caddie-boy for several tools.

The tee is the position near the first hole from which the ball is driven at the commencement—generally a small hillock of sand, to give the ball a little elevation. There are eighteen holes in all. The balls are of different weights, to suit wind and weather, and are now made of gutta-percha. Two or four play the game.

We do not wonder that golf seems to have got firm footing in the athletic heart of England, or that its votaries are as enthusiastic as cricketers. Golf can be recommended by medical men as one of the healthiest recreative exercises that is known. Consider what it is. First, it is a ball-game, and a ball-game of skill, too. The tools required for playing it are several, and constitute no light weight on one's shoulder if he has far to march to the links; but, then, one can always enlist the services of a gillie, and on the ground this is needful. We must have, for instance, the play-club for driving shots from the tee. This club must be well chosen and scientifically made; and great art, not to say science, is needed in hitting aright—more art, perhaps, than strength. The *cleek* and sand-iron are for getting the ball out from "hazards," in the shape of bushes, tussocks, pits, &c.; the putter is used when the ball is near the hole; and here most careful manipulation is needed. There are also the niblick and spoon—all useful and necessary at times.

Although the golfer's implements are many and varied, they are seldom all used except in matches.

For private practice those essentially necessary are the *play-club*, the *putter*, and the *cleek*. With these alone the beginner may spend many a very enjoyable afternoon on the links, and gradually become a proficient in the art of golfing. The tools are not expensive, but the amateur would do well to get some friend who is a practical player to buy them for him. For the benefit of beginners we may say a word or two about each of these three implements.

The *play-club*, being used chiefly for long shots from the tee, should be of useful length, with a strong shaft, not too supple or springy, the head of medium weight and well proportioned. Whenever the ball lies in a good position along the links or green, this club may be used. When playing, it is firmly grasped at one end, the fists closed over it and close together, so as to give plenty of swing and power. The head of the club should describe as large an arc of a circle as possible; it should be raised therefore and thrown back over the right shoulder, the hands being about on a level with the ear. This elevation is slow and studied, for the eyes are contemplating the ball. Though the descent of the club is very swift, as we have already hinted skill is even of more value than the strength of stroke. The position of the body is of great moment while striking. The feet are nearly a yard apart, and the whole body posed so that not an ounce of weight may be lost.

When the ball gets closer to the hole, the "*putter*" is used, and a deal of skill is shown in the method of handling it. This tool is thirty-six inches long, the handle is upright and stiff, and strong without being unwieldy, while the head is medium-sized, broad-faced, and heavy. In putting, it is the wrists that are brought into play chiefly. The player must judge his distance, and play quickly and decidedly



Fig. 5.—PUTTING.

and evenly. It is better to go beyond the goal than not up to it. "Never up, never in" is the putter's motto.

The cleek is a very useful club, and often takes the place of the sand-iron. This must also be stiff in the shaft, with an iron head straight in face.

The rules of golf are distinctly laid down by the "Ancient Club of St. Andrew's."

As in every other game, only constant practice can ensure anything approaching to perfection. This practice the amateur would do well to take with some friend already skilled in the game, while the attitudes of the latter should be watched, and his verbal hints remembered. He must study the rules of the game on the ground; they will thus be more easily remembered. The more often, too, he sees good players at work, the better. He will after a time become very fond of the game. Indeed, the harder one's muscles become with the exercise, the more one comes to like golfing.

The dress of the golfer should be of wool, but light. Nothing beats the Glengarry bonnet (for no wind will blow it off), nor the Highland brogue and stocking, with knickerbockers; and a belt should be worn in lieu of braces.

Golf is essentially a man's game, though there is no reason why resolute hardy girls may not play it. Its chief recommendations consist in the long delightful walk to the links, in the walking entailed during the game, in the pleasurable excitement maintained throughout, and in the breathing of bracing sea or country air, which never fails to induce an excellent appetite.

Bowls.—This is another very ancient game. We are told that in the days of Edward II. it was most



Fig. 6.—BOWLS.

fashionable among the nobility and gentry of England, and that in Queen Elizabeth's time the bowling-green at every good house in the country was considered as much a necessity as are our lawn-tennis courts, to which they have given place. In the early part of the present century the game still held its own. The greens in those olden days were far more carefully attended to in the way of watering, mowing or clipping, and rolling, than many of

ours are at the present day, for it is a *sine quâ non* that the bowling-lawn, or rather green, be as level as it is possible to make it.

It is essentially a people's pastime. Probably the facts that greens are now seldom seen, except behind old-fashioned inns or hotels, that beer and bowls are supposed to be much associated, and that the game is especially patronised by staid elderly people, have combined to deprive it of its once fashionable reputation in England. There is a good deal, however, to be said in its favour, and many a man may do far worse than spend a summer's evening on the bowling-green, or, with his pipe, in the arbour, watching his neighbours play. In Scotland the game is as popular as ever, every small town having its club, each member of which has his own set of bowls in a locker; every manse and house of any pretension will have its green; and matches between different clubs are of everyday occurrence.

A good bowling-green should not be less than sixty yards long, by thirty in width. The bowls themselves are nearly spherical pieces of heavy wood. At one time they were shaped like Mandarin oranges, the "bias," or turn, being given by loading one end with lead. But nowadays it is found possible to give that bias by elongating one end somewhat, so that the bowl is said to be shaped partly like an orange and partly like an egg. It is made of *lignum vitæ*. In playing, there are double or treble the number of bowls that there are players, with a *jack* for each game to be played. This jack is a spherical ball, made of earthenware or wood. It is bowled first by one of the players to a place on the lower end of the green, and thus "sets the mark," the subsequent playing having for its object the placing of the bowls as near to the jack as possible. The jack, indeed, occupies what would be called the *tee* in curling. The "footer" is the place on the green from which this jack first, and the bowls afterwards, are delivered. It is usual to place here a piece of oil-cloth or morsel of carpet, to save the turf from injury, the grass being kept rolled and mown even more sedulously than for a tennis ground.

There are in the game several technical terms that an outsider would hardly understand. The game itself is called "the set," and the number of casts thereof are agreed to by the players. If a bowl is illegally played, or played off the green, or against the boundary fence or net, it is dead, and is at once removed from the ground. An "end" is the round played by all having delivered their bowls. If neither side scores a cast, it is called "a void end." If it is impossible to say which of two bowls lies closer to the jack, or if there be any dispute about the matter, the ground is measured, from the nearest side of the jack to that of the player's bowl.

There may not be much science about the game of bowls, but it takes a considerable deal of practice and no slight amount of skill to make a good player.

There are different ways of playing the bowls, called the fore-hand and back-hand delivery, giving right-hand or left-hand bias. As in curling, if a bowl has been well placed near the jack by the leader, his partner will endeavour to place a bowl so as to protect it; while an opponent will try to knock it away, leaving his own on the spot. It is here that the "bias" of the bowls comes in, allowing the bowls, which start in a direction considerably to one side of the spot to

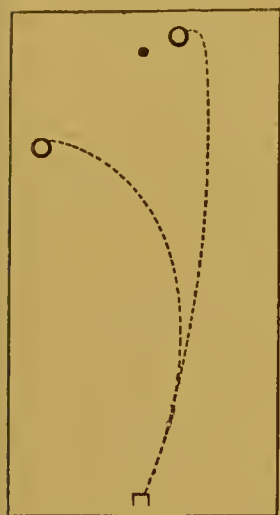


Fig. 7.—BIAS IN BOWLING.

be reached, to curl round other bowls which apparently stand in the way. Thus two successive bowls by the same player might take the respective courses shown in Fig. 7.

The first thing to be done is to set the mark. The leader has two tries at this, if necessary, for the jack must be properly placed. If he cannot do so at the second trial, one of the opposite side does it, but the leader plays first all the same. The bowls for each player are marked in a simple way; if any one plays with an opponent's bowl, the latter may take it up, and substitute it in the place to which the wrong one was played, or go on playing with the defaulter's bowl.

The leader having set the mark; if the game is all against all, the players deliver their first bowls alternately, and then their second. If the game is played in pairs, No. 1 plays his first bowl, then his opponent; No. 1 now plays his second, and his opponent follows suit; and so on all the other four or five pairs, or whatever the number be. After the end is played, and measurements made, the last player places the footer near to where the jack lay.

On the whole the game has quite enough about it to make it as exciting as it is wholesome.

Quoits.—Playing the game of quoits is a very good pastime for a summer's evening, and one that requires a considerable deal of practice if skill is to be attained. The ring of iron called the quoit needs little description; it is simply like the foot of an old-fashioned wine-glass, with a hole in the centre, the outer edge therefore thin, the inner thick. (Fig. 8.) Quoits are of different weights to suit the players, and no extra degree of strength is required in throwing them.



Fig. 8.—QUOIT.



Fig. 9.—HOLDING.

The ground is of turf, flat, and thirty yards long, and two pegs or "hobs" are used as marking. The quoit is held betwixt the thumb on the upper or convex side, and three fingers on the under, the fore-finger placed in the dent on the outer edge. (Fig. 9.) It is difficult to describe on paper the mode of throwing the quoit, but it must fall and lie with its convex side uppermost, either partly and truly embedded in the ground, or lying flat on the surface. It must not roll. Each player delivers his two quoits one after the other, unless four be playing, when one each has a quoit. A "ringed" quoit—i.e., one that falls over the hob—counts two points.

There is much to be thought of even in quoit playing, and one requires to be a good judge of distances, and have a good eye.

It is best at first to practise throwing only short distances, which the amateur may increase as he improves in the straightness and steadiness of his play.

Curling.—A more wholesome happy winter game than this it would be difficult to imagine. It has been broadly likened to a game of billiards on the ice, and certainly it entails as much scientific skill.

The rink is measured off on the curling-pond or on some deep Highland lake. This rink is swept very clear of snow (for every curler carries a broom),

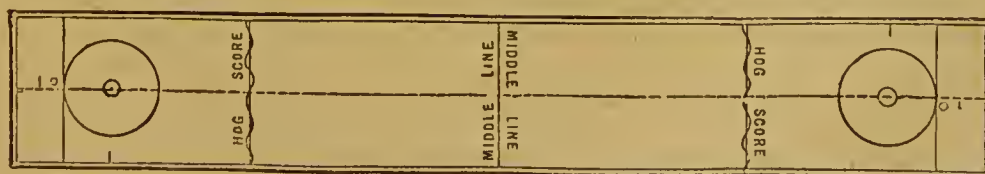


Fig. 10.—CURLING RINK.

and is 42 yards long by, say, 9 feet wide. There is at each end the "tee," and around it the tee-circle. (Fig. 10.) About seven yards from each tee is the hog-line, which stones must cross. These stones look like cheeses formed of the hardest granite, with handles to them on the top side. (Fig. 11.) They are



Fig. 11.—CURLING STONE.

made of exceedingly hard stone, perhaps whin-stone, polished as perfectly as the glassy surface of a granite monument. The weight is from thirty to fifty pounds, including the handle. The number of players on each side may be four, five, or more; each side has a "skip," or director, who, of course, is also a player, and it is his duty to guide and direct each combatant, as to the place where he must try to plant his stone. The skip, therefore, is near to the tee that is being played for. He will also tell the player the amount of force to be used. Sometimes this force is hardly sufficient to bring the stone far enough up, and then men of the player's side are ready to "swoop it up" with their birchen brooms—that is, to clear and render keen the ice in front of the moving stone.

The stones are sent sliding along, the player standing on a piece of iron called "the grips," and a deal of skill, not to say strength, is needed to play well.

There is a certain similarity betwixt bowls and

curling, although the stones are not lop-sided. The main object is to gain the tee, or get as near to it as possible; and one having got into a good position, his side will place stones to guard it. The resemblance to billiards may be said to lie in the player's being able to cannon off another stone, either to get in to the tee himself, or send an opponent's stone therefrom.

We must refer the reader to books for a more correct description of this delightful game. Unfortunately, it cannot be played often in England; but during the winter and even spring months, when the sky is clear and the frost is hard, with, perhaps, scarce a breath of wind whispering through the pine-trees, the excitement in Scotch villages is intense, and every one who can get away—even the minister himself—is seen wending his way to the distant loch to enjoy a "bonspeil" on the ice. Long before one gets within reach of the curling-pond he can hear the roar and hum of the stones, and the excited shouts of the "swoopers-up."

Curling is not a ladies' pastime, though ladies go as spectators and to enjoy the walk, or probably indulge in skating on the loch, and those of the gentle sex who stay at home prepare the curlers' dinner; for, it is needless to say, all return with well-whetted appetites. In the evening of a match-day the curlers meet together to do justice to corn-beef and carrots, and to spend the hours with "sang and clatter."

In Scotland, we may add, a lawn-tennis ground is often made in a hollow, with banks all round, so that in winter, as soon as frost comes, it can be flooded, and thus turned in one night into a curling-pond.

IRONING, STARCHING, AND "GETTING-UP" LINEN.

IRONING is a straightforward process, acquaintance with which is not easy to impart in words, simply because what are needed in order to gain skill in it are chiefly practice and care. Nevertheless it is a very important part of laundry-work. Clothes may be never so white and clean; unless they are also smooth, glossy, and well polished, the housekeeper will not get much credit for them. Still less will she gain credit for clothes which ought to be stiff and firm, but which are limp and soft. Badly-starched garments are very unsatisfactory. They are not comfortable to wear; they never look handsome, no matter how costly they may be; and they very quickly get dirty and untidy. To be able to starch satisfactorily is, therefore, a most valuable accomplishment.

Thirty years ago a girl who could not starch and iron her father's shirts and collars, and "do up" her own washing dresses and laces, was considered woefully deficient, from a domestic point of view. Ten years later home laundry-work fell into disfavour, and for a long time professional dressers had all work of this kind put into their hands. For the most part they misused their opportunities; they sent home the shirts and collars delightfully stiff and glossy, but too often they were a bad colour through not being washed properly; while again and again housekeepers found that, owing to the employment of chemicals, valuable garments seemed to fall to pieces whilst yet they were almost new. Very naturally one or two experiences of this kind made housekeepers rather afraid of the ordinary

shirt-dresser, and caused them to think with longing of the advantages of doing their laundry-work at home. The consequence has been that schools for teaching practical laundry-work are now only a little less common than cookery schools; and clever managers are quite anxious that their daughters, and those who serve them, should be trained in this most useful art. This is a very good thing, and mothers who have the opportunity to send their daughters to schools where laundry-work is taught, should by all means embrace it. They will find that to do work of this kind is the very best way of learning how to do it.

The tools needed for ironing are not numerous. They consist of an ironing-table; a sufficiency of good hot irons of kinds suitable for the work to be done; iron-stands and iron-holders; an effective arrangement for heating the irons, for it is great waste of time to try to iron with cool irons; a skirt-board; when shirts have to be ironed, a bosom-board; a large clothes-basket, lined with a clean strong towel, to keep the clothes together; a clothes-horse to hang them upon as they are finished; a rubbing-cloth and dusters for keeping the irons in good condition; starch, blue, and whatever materials are preferred for imparting stiffness and gloss.

The Ironing-Table.—In ironing, it is half the battle to have a large firm soft surface upon which we can carry on our operations, and which also is exactly of the right height for the ironer. If the worker is cramped for room, or if she has to bend over-much, and so make her back ache—if the table is so high that she cannot bring pressure to bear on the clothes—or if the coverings of the table are liable to move at critical moments, and thus make wrinkles on the clothes—it is not likely that good work will be produced. The ironing-table, therefore, should be strong and firm, and covered with a thick blanket, over which a linen or calico cloth has been tightly stretched and securely pinned. When not in use, these covers should be aired before being folded, then laid away in a dry place. It is necessary to air these covers because a certain amount of damp is conveyed to them from the clothes; and if this is left from week's end to week's end, the covers will rot and break into holes.

A Skirt-Board is a board made narrower at one end than the other, so that it can be put inside skirts and dresses. It is usually about five feet in length, eighteen inches broad at one end, and from two to six inches broad at the other. The ends should rest on trestles, so that the part of the skirt which is not being ironed may drop over the side, and thus escape being creased. There should always be a chair or

stool placed in readiness to receive the portion that drops, so that it shall not drag upon the floor and get dirtied. When these trestles are not at hand, it is usual to make two kitchen chairs serve as substitutes, by placing the chairs back to back with a space between, and letting the ends of the board lie on the tops of the backs. When this plan is adopted, a weight should be placed on the seats of the chairs to keep them firm.

A Bosom-Board is a miniature edition of a skirt-board, and is used to place inside shirt-fronts in order to iron them perfectly. Sometimes it is left loose, sometimes it is screwed to the table, and the front is placed over it. Both these boards should be covered thoroughly with one or two folds of blanket and three or four thicknesses of calico. They are much more valuable when very soft. The coverings, however, should be stretched tightly, and fastened securely; otherwise they will slip and catch at the ends, and so make mischief.

Irons and Iron-Heaters.—For plain ironing there are three kinds of irons—box-irons, charcoal box-irons, and flat-irons. Of these, box-irons (Fig. 1) are the best: they keep hot longer than the others,

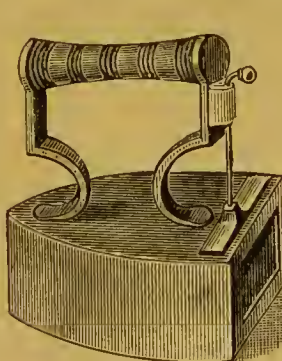


Fig. 1.—BOX-IRON.

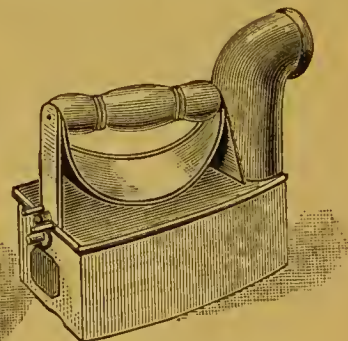


Fig. 2.—CHARCOAL IRON.

and they are in little danger of becoming dirty, so that they cannot soil the linen. Each box-iron is usually provided with a pair of heaters; and when purchasing these, it is well to remember that the heater should fit loosely when the iron is cold; if it fits exactly when cold, it will, when hot, be difficult to put into its place, because the heat will cause the iron to expand slightly. A heater should be quite red-hot before being used; and the iron should stand a minute or so after the heater is dropped into place, because the heat will not penetrate to the surface on the instant, and if the iron is used at once it will probably stick and become smeared.

Charcoal box-irons (Fig. 2) are much praised by some laundresses, but they require management, and on the whole cannot be said to be as satisfactory as

ordinary box-irons. Only the best charcoal does for them, and the fumes they create often prove objectionable.

Box-irons may be approved in theory, but in ordinary domestic practice flat-irons are the sort generally used. These do their work very well if they are properly cared for, and of a good size. Small irons soon get cool, and very little pressure

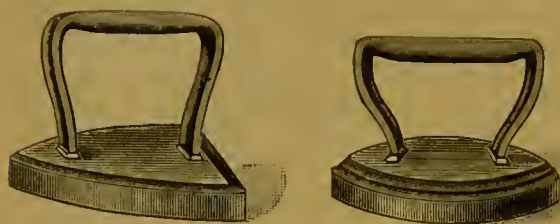


Fig. 3.—FLAT-IRONS.

can be obtained from them. It is very desirable also that there should be a sufficient number of irons, so that they may be quite hot before being taken. Three irons for each worker is a very moderate allowance; and to try to iron with a cool iron leads only to disaster, while to have to wait because the iron is too cool wastes time. When not in use, irons should be kept in a dry place, because damp will produce rust, and rust is certain to spoil them.

It is very foolish to allow flat-irons to get red-hot; they never run quite as smoothly as they did before, when once this condition has been attained. Flat-irons heat much better on the top of a stove or kitchener than they do in front of the fire, because in the latter situation they are liable to be blackened by smoke or jets of gas issuing from the coal. If they must be heated in front of the fire, pains should be taken to have the fire clear. Where a large number of clothes have to be ironed, how-

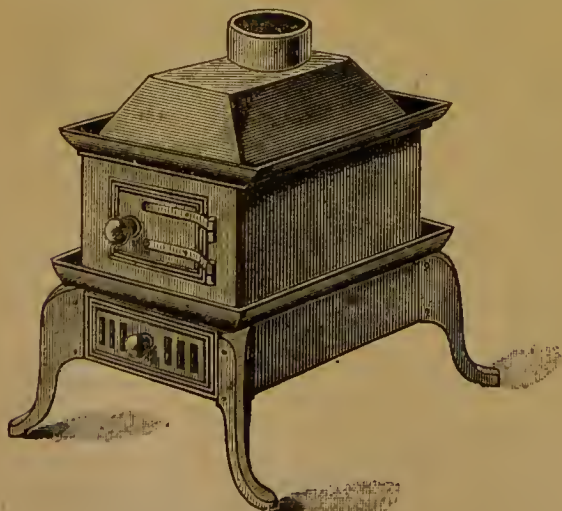


Fig. 4.—IRONING STOVE.

ever, ironing-stoves are great conveniences; and as these articles are not expensive, and heat several irons at once, it is worth while to remember them. A cheap and convenient pattern is shown in Fig. 4. Irons that are being heated on the flat plate of a kitchener, which answers excellently, will become hot more quickly if an iron-cover be put over them.

A modern invention which saves much trouble is a gas-iron. This is made hollow, so that it can be placed over a gas-burner, becoming hot in a few minutes. Gas-irons can also be connected by tubing to a gas-pipe, and the gas kept burning inside. Another convenient modern appliance is Fletcher's gas ironing-stove, by means of which irons can be heated without a fire, and which can also be used for boiling a kettle. Gas-stoves of this description are very useful where a little ironing has to be done occasionally.

Stands, Rubbers, and Holders.—It is most important that flat-irons should be perfectly clean and smooth, otherwise they cannot be worked satisfactorily; and laundresses have various expedients for securing this end. It is a good plan to have an old knife-board or several folds of thick

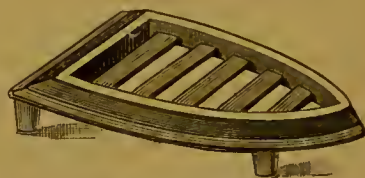


Fig. 5.—IRON-STAND.

soft brown paper placed near the stove or fire, upon which a little bath-brick or ash-dust has been rubbed, and to polish each iron upon this as it is taken, afterwards rubbing it all over with a clean soft duster kept for the purpose. A favourite mode of treatment in order to render irons smooth and polished is the following:—Every week, before beginning to use the irons, take a small knob of beeswax, break it into small pieces, and sprinkle these on brown paper folded to several thicknesses. Pass the surface of the heated irons over this one after another, and rub them thoroughly all over with a cloth. If very rough, they may be rubbed briskly on crushed salt or sandpaper before being passed over the wax.

Iron-stands should be provided with feet of a shape not likely to bore holes in the ironing-cloth; and iron-holders should be well padded to protect the hand of the ironer. Inattention to small details of this kind cause great discomfort.

Special Irons.—Besides the irons used for plain ironing, there are special irons required for special work. Amongst these may be mentioned the *convex polishing iron*, the *Italian iron*, the *egg-iron*, and the



Fig. 6.—POLISHING IRON.

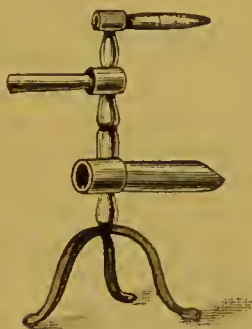


Fig. 7.—ITALIAN IRONS.

goffering machine. The *polishing iron*—or *glossing iron*, as it is often called—is an iron of the ordinary pointed shape, but with a convex steel face (Fig. 6); it is used to give a polish or gloss to shirt-fronts or collars when they are apparently finished. These

irons have to be worked very much like an ordinary iron, only rather more quickly, and with great pressure. Moreover, they need to be made about as hot as an ordinary iron. They require great care, because the polished steel face readily splits, chips, or gets scratched if it is knocked about, or more grievous still if it falls. On this account also these irons need to be heated on a close stove. In the case of a trifling accident the damage may often be repaired by carefully rubbing the part on a stone.



Fig. 8.—EGG-IRON.

Italian irons are used to iron small frills, and are made hollow, so that heaters rendered hot in the fire can be placed inside them as required. (Fig. 7.) *Egg-irons* are employed to make smooth the inside of caps and rounded portions of a garment. (Fig. 8.)

Goffering-irons are used for large frills. The goffering-tongs frequently used are shaped something like a pair of scissors (Fig. 9); they lose



Fig. 9.—GOFFERING-IRONS.

their heat so very quickly, however, that unless the laundress has three or four pairs on hand, and uses them in turn, letting the rest heat while one is being used, it is impossible to make any progress. The

improved goffering machine saves much time and trouble. It consists of two fluted rollers, which can be thrown in or out of gear at pleasure, and when in gear are rather pressed together by a spring. Both rollers are made hollow, so that they can be kept hot from the inside.

Starch.—There are two or three ways of making starch, and there are several kinds of starch. As for the sort of starch to be chosen, it is wise to choose a good kind—that is, a kind which is of good repute. Patent starches are usually sold in packets, and directions for making are printed outside. These directions should be followed. It is seldom possible for novices to improve on a manufacturer's recipe. For the rest, it may be said that collars, cuffs, and shirt-fronts, which need to be very stiff, are generally starched twice—in boiled starch and raw starch. For ordinary starched goods this second starching is unnecessary—indeed, skilful laundresses very often dispense with it even for shirts, collars, and cuffs; and yet produce extremely satisfactory results.

To make Boiled Starch.—Mix a little cold starch with cold water in a basin to make a paste. Pour boiling water on it, and stir it without ceasing until it looks transparent. Now add whatever ingredient is preferred which is intended to give gloss to the garment, or to make the iron run smoothly, and then put the starch into a saucepan, let it boil, and stir it for a minute or two until it is of the right consistency. It ought not to be in the least watery, and yet it ought not to be too thick; for if it is, it will not go through the fabric. It is not easy to say how much starch should be made, because this depends upon the number of articles to be dealt with, and the stiffness needed; also all starches are not alike. It will, however, be somewhat of a guide if it is understood that three tablespoonfuls of starch will be *about* enough for a quart of water; when, however, the starch looks clear, it is a sign that sufficient boiling water has been poured over it.

The ingredients added to boiled starch, to impart gloss and keep the iron from sticking, are numerous. The most approved are—Linen Glaze, sold in penny packets by almost all chemists; a little spermaceti; a little composite or best wax candle (an inch to a pint of starch); a few drops of turpentine (the three last-named ingredients are very often put together); a tablespoonful of powdered gum dissolved and put into every pint of starch. All these are used constantly.

Perhaps it will be said, "Which of these ingredients is the best?" As a matter of fact that ingredient is the best which is in the hands of the most skilful

laundress. Undoubtedly a little piece of candle or a few drops of turpentine assist starch; and yet the secret of successful starching and ironing depends much more on the skill of the laundress than upon aids of this kind. Few skilful workers would agree with this; they would feel convinced that the explanation of their success lay in their employment of the best aid. Yet if they were to place this best aid in the hand of an inexperienced ironer, the result would be disastrous.

To make Raw Starch.—Mix half a teacupful of starch to a smooth paste with cold water, and add gradually more water to make about a pint of liquid. Stir in a teaspoonful of borax, which has been dissolved in boiling water; this is an excellent addition to cold starch. Many laundresses would add also a teaspoonful of soap jelly; the jelly, like the borax, would need to be melted in boiling water before being added to the starch.

When boiled starch is preferred, care must be taken to use it as hot as possible; it gets thick with standing, and when thick will not permeate the linen. Cold starch, on the other hand, needs to be stirred constantly, because the powder has a tendency to separate and settle at the bottom. Shirts, collars, and cuffs, are usually considered more important than anything; therefore they are as a rule put into the starch first, after which a little boiling water is added to thin the starch somewhat, for the reception of dresses, aprons, and muslins. If white starch is used, a little blueing water may be added, to give the articles a good colour. Very often a lump or two of sugar dissolved in the rinsing water is found to stiffen lace sufficiently, though as a rule good lace requires no starch. A favourite recipe for making starch for lawns and muslins is the following:—Melt an ounce of fine white gum Arabic in half a pint of boiling water. Let it stand for a while, then pour off the clear solution and bottle it. Add a tablespoonful of this preparation to a pint of thin starch, and it is ready for use.

The following recipe for imparting gloss to starch has been much approved:—Take one ounce of white wax, and two ounces of spermaceti, melting them together at a gentle heat. When making starch, stir a piece of this polish (the size of a small bean) in about a pint and a half of starch. Spermaceti, turpentine, a little candle, or dissolved soap, are supposed not only to give gloss to linen, but to keep the iron from sticking.

To Starch Shirts.—When about to starch shirts, it is perhaps scarcely necessary to say that those parts only which are required to be stiff are to be dipped into the starch. They should first be

dried, then dipped into the hot starch, and squeezed out; this operation should be repeated until the parts are evenly saturated with the starch. Put the wrong side of the bosom of a shirt in first, afterwards the right side, and lightly rub and clap the starched portion. The bosom and neck-band of a shirt should be gathered together and treated first; afterwards the wrists may be taken. Dry thoroughly. When dry, sprinkle evenly with cold water, put the two sides of the bosom together, roll lightly in a cloth, and leave for several hours.

When raw starch is used, garments do not need to lie for some hours before being ironed; indeed, this is the reason why so many laundresses prefer raw starch, because of the saving of time it causes. Even with raw starch, however, it is advisable to let the goods lie for a little while (an hour or so) rolled in a damp towel. If left till dry, they will be spoilt. When both boiled starch and raw starch are used for shirts, &c., it is an excellent plan to make haste and put the things through the hot starch on the evening of washing-day; let them dry in the night, and in the morning pass them through the raw starch, rolling them in a damp towel till the unstarched goods are ironed. This brings the irons into good condition, and makes them fit for the starched things. Irons never run so smoothly when first taken in hand as they do after they have been used for a while. On this account experienced laundresses always like to leave the starched things till the last.

To use raw starch, wring the articles as dry as possible, put them in the starch, and with very clean hands rub them to free them from any powder which may have settled on the surface. If this powder were allowed to remain, it would make a mark. Lay them out singly on a towel, and fold them over and over, so that they do not touch each other, but the towel lies between them, then pass them through the wringer. They will be ready to iron in a very short time.

Ironing.—When everything is ready for ironing, divide the clothes in an orderly manner before commencing operations. Put the clothes-basket, full of clothes waiting to be ironed, upside down on the ironing-table; then set the empty basket on the floor, and line it with a clean towel. Take from the heap all articles which need but a few minutes' attention: place them together at the other end of the table. When the clothes are divided, these can be ironed at once, then hung on the horse to air. Their mere removal will make the work to be done seem much lighter; and if the clothes are aired and carried away, they will leave room for other things. Put the starched things on one side; they are to be dealt with when everything else is finished. Place the sets together

—that is, place the nightgowns in one pile, the chemises in another, and so on. Pack the basket with articles in the order in which they are preferred, those which are to be ironed first being at the top. Do not waste time by trying to do the work with cool irons; the attempt will only be a discipline of the spirit, and do no good.

Always iron with the thread parallel with the selvage; to work in any other direction is to make the articles look baggy. There is a knack in ironing, which can be acquired only by practice. Inexperienced workers often push the iron backwards and forwards; they ought rather to aim at *pressing* the material with the iron, passing the latter along as they do so. Pressure is specially needed to give the finishing-touches where a gloss is desired. During a process of ironing, the iron should be held up and looked at frequently to see that no starch or dirt has adhered to it; indeed, experienced ironers almost always have a habit of raising the iron constantly to examine its condition. If the starch has stuck, the iron must be cleaned before work is proceeded with; otherwise it will stick again, and make a brown mark on the linen. It is a good plan to keep an old knife by the side of the iron-stand to take off these pieces. By all means iron every article until it is *dry*; if left damp, and hung to dry before the fire, it will look rough when finished. Ironing over and over until perfectly dry is one of the secrets of good ironing.

Now let us take a few of the articles usually found in a household wash, and see how they should be ironed:—

Table Linen requires very careful treatment, if it is to look well. It should be shaken well, and drawn—that is, taken hold of by two persons and pulled to hang evenly—then folded, before being hung out. This will straighten it and make it dry much better. It should be dried thoroughly, then plentifully sprinkled with water, and mangled while tolerably damp. After mangling, it should be gone over carefully, first with the ordinary iron, then with the glossing iron; folded lightly, lengthwise, twice, then twice across, and put away. Many housekeepers like to wring table linen out of thin starch while wet. Undoubtedly this makes the linen feel crisp, while it keeps clean longer when thus treated, but such treatment spoils handsome linen.

Flannels, if ironed at all, should be ironed on the wrong side with a cool iron.

Stockings and Socks should be mangled, not ironed.

Sheets, Towels, Pillow-Cases, and similar articles, should be folded lengthwise (the larger sorts twice lengthwise), then across twice. If strings are attached to them, these should always be ironed straight. Turkish towels should be neither mangled

nor ironed, simply drawn and folded; the rougher they are, the better.

Body Linen, such as nightgowns, chemises, &c., is ironed with the front outwards, to leave the trimmed part outside.

Dresses should be ironed in the thickest parts; such as the bodice, gathers, waistbands, sleeves, &c., first. The skirt should be gone over on the wrong side, then finished on the right side; and a cool iron should be employed for them, because a hot iron makes the colours fade.

Pocket handkerchiefs should be folded and mangled wet, left to lie for a time, then ironed singly while damp. If this is done, they will have a good gloss without being put into thin starch, as some laundresses recommend; but starch injures them, and makes them rot. Embroidered letters or monograms should be ironed first of all on an extra piece of blanket on the wrong side. The flannel will throw up the pattern. Pocket handkerchiefs which are well ironed and got up, look so very superior to those which are badly ironed, that it is worth while taking a little pains with them.

Embroidery should be ironed on the wrong side.

Plain Muslin should be ironed on the right side. It looks best when ironed twice, in opposite directions, by the thread.

Spotted Muslins should be ironed on the wrong side.

Art-Muslins should be ironed on the wrong side with a cool iron.

Lace is very often not ironed at all, being simply pulled out and stretched, then pinned in position till dry. If ironed, it must be laid on the board face downwards and ironed on the wrong side with a cool iron, and with muslin between the machine and the fabric. Very fine laces should never be touched by the iron, but should be ironed through muslin. After being gone over a few times thus, the lace should be taken up, pulled and stretched, then ironed again as before.

Crochet should not be ironed, but simply pulled straight.

Caps and Aprons which are trimmed with frills should have the frill ironed first. Unless this is done, the plain part will be creased while the frill receives attention.

Silk Handkerchiefs should be ironed with a cool iron on the wrong side.

Collars and Cuffs need very careful ironing. Have irons that are very hot, but not hot enough to scorch. Stretch the collar or cuff out, lay it straight, face downwards, on the table, and iron it quickly from one end to the other to dry it a little. Turn it, stretch it a little, and iron it in the same way on the right side till this is smooth and without wrinkles. Repeat once or twice, but gradually more slowly and

heavily, till the collar begins to feel dry; then finish on the right side with heavy pressure. Until skill has been acquired in work of this kind, it is an excellent plan to lay a handkerchief or piece of thin muslin on the ironing-blanket, place the collar or cuff evenly on this, fold the handkerchief over, and iron the collar with the handkerchief between. Unless collars and cuffs are made completely dry, they will be limp. When cuffs are made reversible, with a band in the middle, the band should be finished before the rest of the cuff is touched.

Shirts are acknowledged to be more difficult to iron and get-up well than any other article; and a person who can iron a shirt well, can iron anything. More than anything else, they require practice and patience. An amateur who looks for directions which will enable her to get-up a shirt perfectly the first time of trying, will look in vain. Those, on the other hand, who will diligently try again and again to do the work, will in the end do it with ease.

A shirt must be well starched and prepared if it is to be successfully "got-up." The best ironer in the world could scarcely make a good business of a badly-starched shirt. Have ready a relay of well-heated irons, and remember that shirts which have been twice starched—first in boiled, afterwards in raw, starch—need even a hotter iron than do those which have been treated with boiled starch alone. Take up a shirt, and shake it out to get rid of any superfluous starch that may adhere. First fold the back lengthwise through the centre, and iron both sides. Now iron the sleeves and wristbands—first one and then the other; leave the wristbands perfectly dry and stiff. The sleeves finished, go on to the shoulder-

bands, and afterwards to the neckband. If the collar is attached to the neckband, iron this also. Turn the shirt, bosom upwards, and iron the flap.

Next comes the front, the most difficult part of the garment to iron. Insert the bosom-board under the front, and draw the linen smoothly and tightly over it. Hold it firmly (some laundresses pin the shirt over the board), and iron with an ordinary iron in the ordinary way, but with plenty of pressure, beginning at the top and ironing downwards. The shirt being ironed as perfectly as possible up to this point, the laundress now proceeds to give the gloss to the stiff parts. She has ready a very hot convex polishing-iron, a basin of cold spring water, and a little piece of soft linen. Dipping the linen into the water, she lightly damps the surface of the ironed shirt-front a small piece at a time, and then works over it from right to left steadily and evenly, using great pressure, until the gloss comes, which it very speedily does.

Every part requiring to be glossed should be finished thus, when it will be ready for folding. To fold a shirt, lay it front downwards on the board, and turn the right side of the garment over till the edge touches the centre. Press the fold lightly with the iron, and turn the sleeve over it. Repeat on the left side, and fold the shirt in two down the back, making the bottom of the bosom the mark of the division.

As the clothes are ironed, hang them before the fire, or in the drying-closet, to air. In a very short time they will be ready to fold and put away; and thus washing and ironing at home will be accomplished.

GARDENING FOR MARCH.

Roses.—In the work of the previous month we recommended the pruning, &c., of climbing roses, many of which are among the hardiest kinds grown, and, with few exceptions, the first to unfold their blossoms. From the middle onwards to the end of *this* month is a good time to prune other roses, such as the hybrid perpetuals, the Bourbons, and the moss-roses; finishing off with the tea-scented kinds, now so much grown (and most deservedly so) for their perfume, and the beautiful, varied, and softened shades of colour in their flowers. The greatest mistake perhaps usually made in pruning roses, with the exception of climbing varieties, is that of being afraid to use the pruning-knife or scissors (we recommend the latter, more particularly the French *sécateurs*; they save the hands from many

scratches, and by their aid the work is done much more expeditiously) so freely as should be done in order to keep the plants within proper limits and for the production of flowers of good quality.

To illustrate our meaning we will take as an instance any newly-planted roses fresh from the nurseryman. These are delivered with nearly all their growth upon them. Partial shortening should be done at once, so that there is a corresponding check with that inflicted upon the roots. When pruning proper has to be done, these growths should be shortened back, with due regard to their respective vigour, to from three to six inches of the base where the scion is budded upon the stock. Some might be led to exclaim, "What a pity to cut away so much of the wood!" But by the performance of this a better

healthier, and more permanent foundation is laid on which the plant can build itself up. By taking an opposite course the plants will sooner exhaust themselves, as well as present a miserable appearance, with long shoots having neither flowers nor foliage. Bad pruning—or, more strictly speaking, insufficient pruning—is a fertile source of failure in the cultivation of roses. Only the very strongest shoots should be left at the extreme length previously advised.

This pruning of the first season is a more simple matter than afterwards. Then there must be a careful thinning-out of the weaker shoots, to avoid overcrowding; those remaining can at the same time be shortened even more closely than the previous year, by reason of the greater number of growths. Roses hitherto neglected, with long growths upon them, may be treated as at first advised for young plants, or even more severely pruned, in order to obtain fresh shoots from the base. The tea-scented roses require to be pruned rather more moderately, when a good start has been procured, than is the case with the others.

In the act of pruning itself, care is necessary not in any way to injure that portion of the shoot remaining, and also to make the cut nearly close to the first bud below it. This latter hint will save future trouble in removing the dead pieces, for the wood will be sure to die back nearly to the bud from which the young growth is pushed forth.

When pruning is finished, any needful ties to keep standards or half standards in a safe manner should be seen to; dwarf roses will not need any support when they are pruned properly. A good top dressing of manure should then be applied over the surface of the beds, and carefully dug in; for performing this work, a digging-fork is better than a spade, as deep cultivation is not essential. Farmyard manure is the best stimulant for roses, and nothing can equal it when it is well decomposed; failing this, the next best is that from the stable-yard in a similar state as the other. As the digging is being done, a close watch should be kept for any suckers, which frequently issue forth later on from the stock if not carefully looked after at such a favourable opportunity.

Rhododendrons.—These fine evergreen shrubs may be planted now, if desirable, to fill vacancies caused by death or otherwise. Not that it is the best season for the operation; still it can be safely done with this hardy plant where necessary, rather than have to wait another six months. The rhododendron thrives best in peat, but it will succeed in light loam, and should, therefore, be selected accordingly from a soil as near as possible like that in which it will be ultimately planted.

Hardy Ferns and Ivies.—These, too, may be obtained and planted during the month, just before growth commences. In fact, we prefer the spring-time for the former, most decidedly, as they do not possess such an amount of permanent endurance in their roots; when transplanted in the spring, root-action soon recommences, with less danger of the old roots dying. In planting ferns, due regard should be given to the smaller-growing kinds, to see that they are not crowded out or smothered by the larger ones when in active growth. It is a mistake to plant them too thickly; far better to allow each one sufficient space to make a fairly good growth. After planting, ferns need a good watering, to settle the soil down well around the roots; and a few weeks later on, when the young fronds commence to grow, frequent sprinklings overhead will greatly assist them, as well as plenty of water at the roots when they are well established later on.

Ivies.—We have previously commented favourably on ivies. It now only needs to say that the present month is a very good time to plant them. The stronger-growing kinds will thrive in almost any sort of garden soil, but the small-leaved varieties, which are equally valuable, and possibly more interesting, do best in soil of good average quality. If plants in pots are purchased, the several growths should be disentangled, and each one carefully tied in position, unless it is preferred to train the small ones over rockwork or roots in a promiscuous manner.

Watering Shrubs.—This is a matter requiring attention, where they have been newly planted the previous autumn. The drying winds at this season are frequently trying to them, and many a one will start more freely into growth if attention is given in this respect. Watering should not, however, be performed when there is any frost on the ground.

The Lawn.—The grass will now soon show signs of active growth, and by the end of the month mowing will have to be seen to. It is not well to let the grass get too long before it is mown; for by the removal of a large amount, that which remains is exposed to the weather, and suffers more through a sudden check in its growth. It is better to mow in fairly good time, and before there is a heavy crop; then the work can be done in a more satisfactory manner. While the weather is unfavourable, the mowing machine should have a good cleaning. In order to do this in an effective way, it ought to be taken to pieces, and each part where coated with oil or other accumulations of the past season, be well scraped, wiped clean, then oiled and refitted. It is

not necessary to send the machine away for this to be done more than once in four or five years, as by that time the cutting portions may need re-sharpening and putting in order. Ordinary cleaning and renewal of any piece that may be broken accidentally can be seen to by an intelligent labourer, with a considerable saving of expense. Before the first mowing, the lawn should be well swept and rolled, to remove the worm-casts and take out any unevenness on the surface.

Hyacinths and Tulips.—These, where planted out of doors in beds or borders, will now be growing away at a fair rate. The soil between them should be lightly stirred and raked over, weeds that are making an appearance being at the same time removed. Some sticks should be prepared, in readiness for securing the flowers of the tulips and the spikes of the hyacinths against injury from wind. In doing this work, it is best to make the tie loose, so that the growth can still extend upwards without the danger of being broken, through being crippled. This work well repays for being done, for after all the trouble that has been taken with them it is a pity to see them spoilt when about to unfold their flowers.

Narcissi.—These will now soon be in their full beauty, with favourable weather to assist them to unfold their blossoms. They are worthy of a place in the smallest of gardens, and can be had now in great variety of form and colour, as well as early and late flowering kinds to prolong the season. Those who have not yet grown them to any extent, should take note of those kinds which they deem the most attractive; then, when the planting season comes round, the bulbs can be obtained.

Sowing of Hardy Annuals.—Towards the end of March, when the ground works well and crumbles down almost to a powder, the hardy annuals may be sown. We prefer to do this on the ground where they are to remain when in flower. Should there be any failure to grow, transplanting may then be resorted to, to fill up the blank spaces. The ground requires to be raked over in most cases to get a good season; the seeds can then be sown in rows or in patches, repeating the same kind at intervals. Having tried both, we prefer the latter way, as it gives more diversity in the arrangement. Before sowing the seeds, some finely-sifted soil should be at hand with which to cover them. When ground does not work down fine enough with a rake, a few motions with the palm of the hand in a circular manner will soon bring it right. Sprinkle the sifted soil over the seeds lightly, and press it down

with the palm of the hand. Should the weather continue dry for several days afterwards, a light watering should be given to facilitate germination. Due regard must of course be had to the heights of the different kinds that are selected, and the sorts arranged for effect accordingly. Any descriptive catalogue will supply this information in detail.

Sweet Peas may now be sown, covering the seed with about two inches of soil; when they are peeping through the ground, guard against injury from birds and snails with pepper, as previously advised for carnations and other plants.

Herbaceous Plants.—These are valuable in every garden, be it ever so small; and even more so where there are no glass-houses to raise tender plants for the flower-beds. With a good selection, one or the other may be had in flower the greater part of the season. This is the best time of the year to divide the stools of the non-tuberous section, for further increase where necessary, or for exchange for those not yet added to the collection. If they have stood for several years on the same spot of ground, a thorough change in many instances would be beneficial, not only from the fresh soil, but if left alone too long without division they become weakened. When this is done, those with tubers may be increased to a greater extent if required. If room is an object, and no change of ground can conveniently be given them, then manure the old soil well; dig it deeply, and re-plant on the same again. If there is enough stock of tall-growing kinds to spare, they may be advantageously planted between shrubs with good effect.

The following selection is given as a guide to those who have not yet grown them, and may be relied on to give a good return in flower during their respective seasons, when once they are well established:—*Achillea millefolia rosea*, *Adonis vernalis*, *Alstræmeria aurea*, *Anthericum liliago*, *Aquilegia cærulea*, *A. californica*, *A. chrysantha*, *Arabis alba variegata* (a most useful hardy plant for edgings of flower-beds), *Armeria maritima* (a good edging to walks or shrubs); *Aster bessarabicus*, *A. ericoides*, *A. Nova Angliæ* (best known as Michaelmas Daisies); *Aubretia Campbells*, *A. Græca* (both splendid for rock-work); *Bellis perennis* (Double Daisy); *Bocconia cordata* (tall, a noble plant); *Campanula carpatia*, blue and white varieties (for rockwork); *Centaurea montana*, pink, blue, and white varieties; *Chrysanthemum maximum*, Delphiniums in variety; *Echinops bannaticus*, *E. ritro* (the Globe Thistles); *Erigeron aurantiacus*, *E. speciosus*, *Francoa ramosa* (needs a warm spot); *Funkia cærulea*, *F. grandiflora*, *F. Sieboldi* (with noble foliage and handsome flowers); *Gentiana*

acaulis (for the country only); *Geum coccineum flore pleno*, *Gypsophila paniculata*, *Harpalum rigidum* (one of the best of the Sunflowers); *Helianthus multiflorus*, *H. m. flore pleno* (both fine kinds); *Helleborus niger* (Christmas Rose); *Hemeroallis flava*, *H. Kewensis*, *H. Thunbergii* (the "Day" Lilies, showy border-plants); *Hepatica triloba*, red, white, and blue varieties (beautiful dwarf spring flowering plants, suited to the margins of rockwork); *Heuchera sanguinea*, *Hieracium aurantiacum*, *Hypericum calycinum*, *H. reptans* (the St. John's Worts, useful in shady spots, flower freely); *Iberis semperflorens* (the Perennial Candytuft); *Lathyrus latifolius*, red and white kinds (the Everlasting Pea); *Leucojum vernum* (the Snowflake); *Lithospermum prostratum* (beautiful deep blue flowers, well adapted to rockwork); *Lobelia fulgens* (the Scarlet Lobelia); *Lychnis chalcedonica*, *Lysimachia nummularia* (suited for hanging from flower-boxes or vases); *Montbretia Pottsii* (very fine on peaty soil); *Oenothera grandiflora* (the Evening Primrose); Pæonies, single and double kinds (suited for planting amongst shrubs); *Penstemons* (need a warm corner, then very free flowering); *Phlox Nelsonii* (a beautiful dwarf species for rockwork margins). Phloxes (in great variety for autumn flowering) are amongst the finest of hardy plants for the garden; the following are some of the best—viz., *Ange Gardein*, Brilliant, Countess of Minto, J. H. Laing, Mrs. James Milne, Queen Victoria; *Phygellus capensis*, *Polygonatum multiflorum* (a noble plant, known as Solomon's Seals); *Polygonum Sieboldii* (a plant of stately growth, quite hardy, dies down to the ground every year); *Primula cortusoides* in variety, *P. denticulata*, *P. nivalis*, *P. japonica* (these are all beautiful species of the Primrose, and do well on rockwork); *Pyrethrum*, single and double varieties (these are very hardy, and most useful and lasting in a cut state); *Rudbeckia Newmannii* *syn. speciosa* (one of the very finest hardy plants, with flowers similar to a miniature sunflower; should be in every garden); *Saxifraga longifolia* (the finest of its class, and justly termed the "Queen of Saxifrages"); *Solidago verticillata* (the Golden Rod, fine for the autumn); *Spiræa aruncus*, *S. venusta* (both hardy plants and very showy); *Stachys lanata* (the best hardy light-coloured plant for edgings in town gardens); *Statice eximæa*, *S. latifolia* (both hardy, flowering freely; if dried when at their best, the spikes look well in the winter with dried grasses in vases); *Thalictrum adiantifolium* (foliage resembling Maidenhair Fern); *Tradescantia virginica*, white, blue, and red kinds (does well in a moist soil); *Tritoma uvaria* (very showy in the autumn); *Trollius Europæus* (for a damp spot); *Tussilago fragrans* (the Winter Heliotrope, very sweet-scented flowers); *Veronica corymbosa*, *V. spicata*, *V. longifolia* (the

Speedwelis, dwarf flowering plants); Violets (the "Czar" and "Marie Louise" are two of the best for general planting).

Lilies.—The numerous family of garden Lilies can be removed in the autumn months after their flowering period, where it is necessary to do so by reason of change of residence. The spring months are, however, better and more suitable for the operation of increase, either by division of the clumps, with several bulbs perhaps in each, or by separating each bulb carefully from the soil, preserving a few roots where possible, and replanting at a greater distance apart. Lilies, on the whole, prefer a rather light soil; sandy loam, leaf-soil, or peat suit them well. They should be planted about six inches below the surface, with a small handful of sand shaken over each bulb, which, when moistened, will help to keep the bulb fresh until root-action recommences. The present is a very good time to purchase them, but no time should afterwards be lost in planting. For cultivation in the open borders, the following are amongst the best to choose, and are named in the order of their flowering from June to September; good bulbs can be purchased of each kind at a moderate price:—*Lilium elegans*, in four or five colours (from pale yellow to rich orange and crimson); *L. umbellatum*, also in several shades (from deep orange to crimson); *L. candidum*, the white garden lily; *L. excelsum*, deep buff, quite hardy; *L. longiflorum*, pure white, large trumpet-shaped flowers; *L. pardalinum*, bright orange, spotted with maroon; *L. chalcedonicum*, the Scarlet Turk's Cap Lily, brilliant scarlet; *L. auratum*, the Golden Lily of Japan, pale yellow, spotted crimson; *L. tigrinum*, the Tiger Lily, reddish-orange, spotted black. Any of the aforementioned may also be grown in pots, either out of doors or in a greenhouse; for this latter purpose the following are capital additions:—*L. lancifolium album*, *L. lanc. rubrum*, both of which will flower well out of doors in pots, but are safer thus grown than in the open ground to withstand the winter.

When grown in pots, the soil should be pressed around the bulbs firmly, at the same time keeping them covered several inches with the same. The object of this is to secure the roots from harm which are thrown out at the base of the young growths. These growths are greatly benefited later on by these roots, which are quite independent from those on the bulb itself. Lilies like a moist soil, but not one that is stagnant by reason of excess of moisture; a fair amount of sunshine is preferable to a shaded spot. Their shoots must be looked after when growth commences, and guarded from injury. Snails are partial to them when the shoots are young and tender.

Lily of the Valley.—This well-known favourite may be grown in almost any garden, being accommodating both as to soil and position. It prefers a rather shaded, cool, and moist spot; but this is not absolutely essential for success. Those who have not yet grown it are advised to do so; the present month is the best time to plant it out. The imported clumps or single crowns are the best to choose, being of more vigorous growth than our English variety, producing finer spikes and larger bells. If the clumps are chosen, they could be flowered in pots the first year, and planted out immediately afterwards; in that case we advise that they be carefully divided, and each crown put in singly in rows six inches apart, just under the soil, and afterwards kept well watered if the weather is dry. They will flower well the second year after planting. Old plantations may be divided up and replanted if they have stood some time on the same ground, or they will be improved by a top dressing of good soil passed through a sieve, to remove the coarser portions, previously. Well-rotten leaf-soil is best for the purpose.

Pansies.—These will now be making signs of more active growth, which will soon show for flower. It will greatly benefit them if the shoots that are long enough to handle carefully, are pegged down to the soil; this will encourage young shoots to push forth from the base, which will give a succession of flower. Pansies may still be planted; in fact, they are to be seen in numbers at this season offered for sale in the shops. The drawback to spring planting is the late flowering through the check to the plants. For that reason we prefer the autumn of the year for the work, when the summer bedding-plants are removed.

Fruit Trees in Flower.—Peaches, Nectarines, and Plums flower early, and frequently unfold their first blossoms during March. If the position be one that is fairly well sheltered, there is not much need of protection, and there is the danger of even too much being given. When, however, the position is exposed, a slight protection is beneficial, and often is the means of saving a crop from failure. We are ourselves in the habit of using the old fish-netting in three layers, keeping it away from the trees by some stakes placed in a slanting position—the netting being tied to the stakes at the bottom, and secured by nails at the top of the wall. This netting, so used, will screen the trees from frost quite sufficiently, but not so much as to weaken the blossoms; at the same time there is an abundant circulation of air going, which, with the aid of the bees, will assist fertilisation.

If heavier shading material is used to protect the blossoms, it must be removed during the day, and replaced at nightfall when the weather is bright and clear; for then there is more danger of injury by the morning frosts. We have tried both during several years, and feel persuaded that the netting is by far the best, requiring less labour, and the most effectual at the same time, with less danger of injury to the trees.

Plants in Frames.—These should now have more ventilation given them, which will assist in checking any injury from damping-off amongst the old foliage, and at the same time will retard the young growth for a few weeks longer, when danger from frost will be past. These remarks apply more particularly to Chrysanthemums, now so much grown, cuttings of which that were inserted in December will now be rooting freely. These will be in readiness for potting singly by the end of the month into small pots. Cuttings may also be purchased now for striking at once. This can be done in a cold frame. It is a mistake to nurse them up too much with artificial heat. Although we have ourselves plenty of heat at command, we never remove our Chrysanthemums into even the slightest amount, always preferring the cold treatment. When the plants are potted the first time, the soil should be rather finer than usual—in fact, for the first potting, it may be passed through a coarse sieve. Fibrous loam, leaf-soil, and sand will suit them well; pot them firmly with the fair pressure of finger and thumb, then water once, and place back in the frame, afterwards keeping it close for a few days, till root-action recommences, when more air may be given, to prevent them from drawing up too weakly. Should any green fly be seen on the points of the shoots, it should be stopped at once by a slight dusting with tobacco powder.

Bedding-out Plants in Greenhouses, &c.—Where these are grown, as many may be, in cold houses, from which the frost is only just excluded, more attention will now be needed. All decaying foliage should be carefully moved, and more water given to the plants when they are observed to dry up more frequently. Fuchsias should be potted afresh towards the end of the month; first pruning them, and then shaking them out of the old soil and re-potting them into smaller pots at first. The soil recommended for the Chrysanthemums will suit them very well at the commencement of growth.

Herbs.—These will repay for the attention given to them, even if only a few square yards are occupied in their culture. Most of the best-known

kinds are of easy cultivation—in fact, we are not acquainted with any one kind that can be said to be difficult to grow. They succeed best in fairly good soil, with a proportionate amount of sunshine. The mistake that is frequently made by those who grow herbs is in allowing them to remain for several years on the same piece of ground; thus they become exhausted, and of comparative little use, yielding a bad return. In this way some will eventually die out altogether, and have the reputation of not being suited to that particular soil. Herbs are useful in so many ways, and, when one can draw from their own resources, are undoubtedly used to a far greater extent than if a purchase had to be made on every occasion. During March is the best time of the year to pay special attention to their culture; new beds may then be made and planted with them. The soil should previously have been dug deeply, and fairly well manured. Then where any kinds have been grown that can be replanted by division, this may be done, and an increase may be made if desirable, selecting only the healthier-looking tufts. Others need to be struck from cuttings, and require a little longer to establish themselves; these should have a few road-scrappings (not from macadamised roads) mixed with the soil, or, failing this, some fine soil with a little sand in it. Others, too, can be raised every year from seed, which should be sown about the end of the month on soil that has been well prepared and pulverised. Parsley is thus grown, but needs to have the soil well trodden down, to make it firm, before sowing the seed. In this way it will not grow so luxuriantly, but will come better curled in the foliage. Parsley generally does well as an edging to walks, and is thus easy to get at in bad weather.

The following are best grown from division of the roots:—Mint, which does well in a moist place; Balm, easily grown in almost any soil; Chamomile, requiring a drier place, and not shaded; Tarragon, useful in salads, and growing freely. The following are increased from cuttings:—Sage, best not shaded; Thyme (common and lemon) should not be grown in too rich soil, or will require to be transplanted more frequently.

Those best grown from seed are Basil (bush and sweet), Borage, Fennel, Lavender, Marjoram, Savory (winter and summer). Herbs for winter use may be cut towards the end of the summer, tied up in bunches and dried, then hung up, not too closely together, till required for use.

Vegetable Seeds.—The following kinds are selected as being suitable for small-sized gardens, but are at the same time adapted for larger ones, their value being that of productiveness in a minimum

space of ground. Peas (dwarf kinds are the best and least expensive, as they require but few sticks compared with the taller ones): American Wonder, Chelsea Gem, Advancer, Veitch's Perfection, Omega, Stratagon; these form a good succession in the order of their names. Broad Beans: Dwarf Green Gem. French Beans: Osborn's Foreign, Ne plus ultra. Runner Beans: Mammoth Scarlet, Giant White (these are included for training on walls or fences). Beet-roots: Dell's Crimson, and Egyptian Turnip-rooted. Kale: Dwarf Late Curled. Broccoli: Purple Sprouting, Model. Brussels Sprouts: Paragon. Cabbages: Ellam's Early Dwarf, and Green Colewort. Chicory: Large-rooted Brussels. Corn Salad: Broad-leaved Italian. Carrots: French Foreign, Scarlet Model. Cauliflowers: Early Dwarf, Pearl, and Autumn Giant. Cresses: Erfurt Sweet, Curled. Celery: Sandringham Dwarf White. Cucumber (for frames): Telegraph. Lettuces: Veitch's Perfect Gem, Hick's Hardy White. Parsnip: the Student. Onions: the Queen, Brown Globe. Radishes: French Breakfast, Red and White Turnip-rooted. Savoy: Tom Thumb. Spinach: Victoria Improved Round. Turnips: Early Milan, and Snowball. Tomatoes: Ham Green Favourite, Greengage (yellow). Vegetable Marrow: Long White. Rhubarb (roots): Paragon, Victoria. Asparagus (roots): Conover's Colossal. Jerusalem Artichokes (roots): useful for their tubers in cooking, whilst they form an excellent screen by their tall growth during the summer months. Mustard: Best White. (For herb seeds, *see* notes above.)

Salads.—Where there is not sufficient room to grow many vegetables, there may yet be room to cultivate those for salads; and these will afford not only pleasure, but profit—yielding what is not otherwise an easy matter at times to obtain, viz., a salad that is fresh and enjoyable. Plenty of water during growth is the chief point to observe in order to succeed fairly well. Mustard and Cress are easily grown, and should be sown a little at a time—once in ten days. Lettuce seed may be sown at once, of both kinds named, guarding against slugs by means previously advised. If a few plants can be had at once for planting, 12 in. apart, so much the better. Radishes are no trouble to grow; sow seed once every fourteen days for a succession. Chicory grows as easily as its relative the Dandelion, and is most useful in the winter when grown in the dark and thus blanched—this can be done in a cellar that is not too cold. Beet is well known; this, with the foregoing and watercress, will give a good salad during the winter months. The "Queen" Onion is the best of its class for salads. Tarragon, named among the herbs, is for the same purpose.

Vegetable Seeds for Present Sowing.—With seeds sown during March there is a better prospect of a good return in vigorous plants than if attempted earlier. Early peas should be sown in drills—2 ft. 6 in. apart for the early kinds named, of which the two first may be sown at once, and again at the end of the month. The drills should be about 4 in. wide at the bottom—narrow drills for peas are a mistake, as they are when sown much more closely together than they should be. Peas should be covered with soil to a depth of two inches, and then the soil covering them should be lower by a few inches than the ordinary ground-line, to permit of some more being drawn up to them as growth progresses. Carrots, Onions, and Turnips may now be sown in narrow drills 12 in. apart. The ground for these seeds should be trodden over when dry enough, previous to the seed being sown, to obtain a smooth firm surface on which to draw the drills. Broad Beans of the kind named may also be sown in wide drills 2 ft. apart. Brussels Sprouts and Early Cabbage should be sown in beds broadcast, and protected with netting against the depredations of birds. Cauliflower (Early Dwarf and Pearl) should be sown in a similar manner to the foregoing, but in the warmest corner, in order to hasten their growth. Celery is best raised in a box with a little protection. Parsnips require similar treatment to onions, only 18 in. between the rows. Spinach seed should be sown in narrow drills between the Peas. This is also a good time to plant roots of Rhubarb and the tubers of Jerusalem Artichokes; the latter should have 2 ft. allowed between the rows, and 1 ft. from tuber to tuber. Asparagus, for which the soil should be dug deeply, and well manured, adding a sprinkling of salt, to which it is partial, may be planted by the end of the month on raised beds 6 ft. wide; this size will take three rows at 2 ft. between each row, and the plants the same distance in the row. Cover the plants to a depth of 6 in., and water them afterwards.

All seeds should be sown when the ground works in a favourable manner, without any disposition to stickiness. Previous to sowing, it is better to work the ground over each way with an iron rake, to pulverise it after the action of the frost on the soil. A thorough preparation of the soil goes a great way towards securing good crops. The surface of all the ground between fruit trees and bushes will now be greatly benefited by a light stirring with the hoe; it will do away with any weeds that may be on the move, and thus be the means of saving a vast amount of labour later on, when time is more pressing. Any decaying matter surrounding vegetable crops now standing should be removed. Cabbage plants will need some

soil drawn up to their stems; young plants of the same may also now be transplanted.

Watering Plants in Pots.—This is a point of culture which is one of the pathways to future success if attended to with due care and discretion; or, as is often the case, it is the means whereby many cultivators grow discouraged in their attempts to succeed even with plants otherwise easily grown. To perform this work properly, requires regularity and method; it does not do to be over-generous at one time, and almost flood the plants, and then at another to very nearly dry them up; neither, by any means, should a frequent dribbling process of watering be carried on. When it is observed that a plant needs water, enough should be given to thoroughly saturate the entire ball. Where any doubts exist, a rap of the pot with the knuckles will, with a little practice, soon tell one if water is needed or not. When needed, the rattle will be hollow; at other times it will be sound and solid. It needs some considerable practice before watering can be performed in a proper manner and with the confidence that the best course is being adopted. In the case of soft-wooded plants of quick growth a liberal supply is needed, and the more so if the pots have become well filled with roots. Some plants, again, will almost live in water—such, for instance, as the Arum Lily or Calla (*Richardia*), *Æthiopia*, and the well-known *Spiraea Japonica*. These are essentially water-loving plants, and when in full growth are rarely, if ever, over-watered. Ferns need a liberal supply when in active growth, and soon suffer if allowed to get dusty-dry on the surface. All bulbous plants, when growing, need to be watered freely up to the flowering period; after which it should be gradually withheld as the foliage fades away. Palms should never be permitted to get dry. Of this noble race of plants more are ruined from drought than from any other cause other than that of being kept in too cold a place. Other plants of permanent and evergreen growth need almost the same treatment as the palms, especially those that have somewhat coarse and succulent roots. When such plants have filled their pots with roots, water is needed much more frequently, being absorbed freely. Plants that possess fine fibrous roots need to be watered more cautiously; yet some require a good quantity, such as the Indian-rubber plant (*Ficus elastica*); but this even must not be overdone, nor is it well to adopt the opposite course. In either case the leaves would more quickly turn yellow and die off. Firm potting of plants is the best aid to watering, by the better assimilation of the water, through the larger amount of fine fibrous roots the plants thus treated become in due course possessed of.

The best time to thoroughly examine a collection

of plants as to their requirements in respect to water is the morning, before the sun rises sufficiently high to cause a possibility of their suffering. This refers more particularly to the summer months, but even at other times it should be all done by noon. It will be necessary to examine some plants later in the day during hot weather, when certain kinds dry up more quickly, needing water twice, and even thrice, before nightfall; others may not possibly have required it in the early morning, yet would need it by mid-day or later. Rain-water is the best liquid food for plants, and should always be chosen where practicable; failing this, other supplies must be resorted to; but means must be taken to counteract any evil effects arising. This is best done by exposure to the air for twenty-four hours if possible before being used. Cold water as it is drawn from wells should never be used without considerable exposure, even for plants comparatively hardy; but in the case of tender plants of exotic growth it should be studiously avoided, as a deterrent rather than as a stimulating agent towards successful growth.

When any extra stimulant is needful to sustain the health and vigour of the plant, and to aid it possibly in the developing of its blossoms, artificial manure can be applied with advantage, or liquid manure, as obtained from a farmyard, after it has been diluted. In the former case it is better at first to keep below the printed instructions (as issued by all manufacturers of their own speciality) for its application, and gradually approach thereto as experience in its use is gained; on no account go beyond the same until quite satisfied of its strength as a manurial agent. In the latter case it is also necessary to be cautious, and not apply it too strong at first; about the colour of sherry-wine may be taken as a standard for commencement, proceeding, as previously advised, with caution. No stimulant should be given to plants (pot-plants more particularly) when they are dry at the root, only when in a medium condition. The reason for this is that the water passes through the soil too quickly, and carries with it a great amount of the exciting properties of the stimulant employed. Plants that are excessively pot-bound, or that are, through luxuriant growth, found to dry up very quickly, thus endangering their vitality if perchance they should be overlooked, are best managed by being allowed to stand in a shallow pan or saucer, from which they can draw a partial supply when necessary for their sustenance. In doing this it is needful to keep watch, in order to guard against injury from the opposite direction by at times emptying and cleaning the pan or saucer. In the event of plants having been overlooked, and thereby possibly showing signs of distress, two or three applications of water will be needful to thoroughly

saturate the soil; the revival will be greatly accelerated if a gentle be-dewing with a syringe is given, and the plants, if in pots, stood for a time in the shade and out of the draught till they once more return to their proper condition.

Greenhouse Climbing Plants.—We strongly recommend these to be arranged for and planted in every available spot. No plants will, as a rule, give so much satisfaction, or prolonged pleasure, as climbers. They can be trained so as to supply the greater part of the shade needful to other plants during the summer months; besides which, the splendour of their blossoms is seen to much greater advantage when thus grown. With a good selection of varieties suitable for cold greenhouses or conservatories, one or the other can be had in flower nearly the year through. The best time to plant them is the spring, before growth commences in earnest; they will then quickly lay hold of the fresh soil surrounding their roots. In all cases where practicable we recommend them to be planted in borders in the conservatory or any cool house; but some few kinds are better grown in pots, such as *Hoya carnosa* and *Tropæolum tricolorum*, because of their constitution.

The following selection of climbers is given as being among the best for ordinary cultivation in the conservatory and cool house, with minimum temperatures of 38° to 40°:—*Acacia Riceana*, yellow; *Bignonia jasminoides*, red and white; *Clematis indivisa lobata*, white; *Habrothamnus elegans*, red; *Lapageria alba*, white; *Lapageria rosea*, rosy-red; *Lonicera sempervirens minor*, bright orange; *Plumbago capensis*, pale blue; *Passiflora Impératrice Eugénie*, lilac; *Tacsonia Van Volxemii*, scarlet; *Jasminum grandiflorum*, white; *Passiflora Constance Elliot*, white; *Cobea scandens variegata*, foliage beautifully margined with creamy-white, a very rapid-growing climber. Though these are amongst the best and easiest to cultivate, yet, in order to succeed well with them, they need as much attention as bush-grown plants. Their shoots, in some instances, are disposed to become entwined into each other; this should not be allowed. At times, also, some thinning of the growths will be an advantage; when this is being seen to, those left on the plant can be regulated, and any that are near to or touching the glass brought down lower. When any kind is in flower, the growths should be even lower than at other times, so as to be seen to the best advantage; in some cases the weight of flower will perform this spontaneously. Roses have not been mentioned in the foregoing list of cool-house climbers. Some few kinds might, however, be grown with every prospect of a good return in flower; the best to choose would

be the tea-scented kinds of scendent growth, such as *Maréchal Niel*, *Gloire de Dijon*, *Wm. Allan Richardson*, *Reine Marie Henriette*, *Comtesse de Nadaillac*, *Mario Van Houtte*, *Souvenir d'un Ami*, and the climbing variety of *Niphetos*. The last-named four are not of such robust growth as the others, but once having filled the space devoted to them they give a most profitable return. Moderate pruning is recommended for roses under glass, with thinning-out of the weaker shoots, saving the stronger ones in sufficient numbers to cover the space for their culture.

Shading by Artificial Means.—This where requisite is best performed by means of roller-blinds to work up and down on the roof of the house as occasion may require. Shading the roof in a more permanent manner, either by nailing on the material or by colouring the glass with whitewash or a wash of any other colour, are all alike to be condemned where there is the least possible chance of working a roller-blind. In the latter instances it may perchance happen that we may have a spell of dull and cloudy weather, then the evil consequences of a permanent shading are at once apparent. The only parts of the house which could conveniently be shaded in this manner are the side and front lights, and then it should be done very lightly indeed. The best material to choose of which to make blinds for the purpose is *Brittain's Netting*; this can be easily obtained of any respectable nurseryman. Next to this we advise the use of thin *serim*. If taken proper care of, by storing away in the winter in a dry place,

the former should last three seasons and the latter two. It often happens that these blinds are left out too late in the autumn, either from the idea that shading is as essential as in the summer, or from oversight. This is injurious to the blinds, as well as weakening to the plants themselves. The middle of September is quite late enough for these blinds to be used, as after that time the sun's rays will be beneficial to the ripening of and maturing the growth of the previous summer months. The end of March or the beginning of April is quite soon enough to fix the blinds, for early shading is alike prejudicial and weakening to the plants. When blinds are first used, it should only be when the sun shines out brightly, and the plants consequently show signs of distress. Occasional sunshine, on the other hand, is beneficial, and not likely to cause injury through scalding until later in the season, when possessed of more power. The inferior qualities of glass, that are frequently used, are a fertile source of injury to plants in the latter respect, and compels one to use shading more than would otherwise be needed. Where shading is adopted by those who are devoted to their plants under glass, less anxiety for their welfare need be feared if, when they cannot give them personal attention during a part of the day, they simply let down the blind, thus preventing the temperature rising so rapidly, or the plants themselves suffering for want of water in the meanwhile. Pits and frames, too, ought to have shading provided for them; this should be fixed on small rollers like house-blinds, and put away in the dry when not required for use.

THE ELEMENTS OF EMBROIDERY.

EMBROIDERY has been defined as the art of ornamenting a material with needlework. It is of so great an antiquity that its origin is lost in obscurity, but the ancient specimens we have remaining to us prove what a high standard was reached by the old workers, and show us how very poor and mean our own efforts are as compared with theirs. For hundreds of years English embroidery was justly celebrated all over Europe, but from the time of the Reformation it steadily declined both in execution and design. Thirty years ago little or no fancy needlework was executed save *Berlin woolwork*. This, as a rule, could claim no pretensions to artistic beauty, a lady considering her accomplishments in the art all that was desirable if she could delineate on her canvas in any recognisable manner the portrait of a well-known character, or the figure of an apoplectic lap-dog reposing on a crimson cushion.

Nowadays all is changed. Thanks to the greater attention paid to art of all kinds, encouraged by the increased facilities for travelling, whereby the art-treasures of other countries can be conveniently studied, schools of needlework have been established in various parts of England. This revival has been aided by many who hold a high position in the land. The old work has been diligently studied, the stitches copied, and others originated, while some of our most gifted artists have lent their help by the preparation of designs and sketches for embroidery. The arts of dyeing and spinning the silks and wools have improved in like proportion, so that the wonder now is that people can be found ingenious enough to produce any work that is not pleasing and generally satisfactory. The first form taken by the revival was *crewel work*; but this naturalistic style of embroidery has had its day, and has given place to

better designs more conventionally treated. The main faults of the ordinary work done by the average amateur at present are caused by haste, actuated by the desire to produce something that will give a showy result with the expenditure of a proportionately small amount of exertion. It is the same with the designs; few workers care to take the trouble to originate or to draw their own, but are quite satisfied with such as are to be procured at a fancy-work shop, and which may possibly be worked at one and the same time by a dozen other ladies who deal with the same tradesman. How different is this to the plan pursued by the old workers, who were content to put their whole energies into their task, which was often so mighty that it was reverently passed on to the next generation to complete!

Appropriateness of Design.—In order to produce really good embroidery, much care must be exercised in the choice of a design, and this must depend upon the purpose for which the work is to be used. In the first place, the beauty of appropriateness must be considered; nothing could be more ridiculous, for instance, than a chair embroidered with a design carefully representing birds, a basket of fruit, or perhaps the figures of men, women, or children. Equally absurd is it to find, as too often happens, a wreath of flowers grievously out of proportion to the butterflies which hover round them.

Pictorial art in embroidery should be left to trained workers, and even in their hands it is best restricted to the panels of small cabinets, or screens; conventional designs are most appropriate to chairs, mantel-borders, curtains, or cushions. With photograph frames the case is different; flowers may with good effect be used for these, especially if such blooms be chosen as have an emblematic signification with regard to the portrait enclosed within the frame. In copying flowers, whether on a large or small surface, it is scarcely good taste to work them larger than they are in Nature, but it is better to choose large flowers for large articles, and *vice versâ*.

Another point to be observed in choosing a design, and more especially one that is conventional in style, is that its various parts should be flat against the background, and overlap as little as possible. It can be readily understood that in curtains, for example, the folds in which they hang will cause the outlines to overlap even more than they do in the embroidery, and this gives a confused and muddled look to the pattern. The slightest attempt to give the idea of perspective in needlework is a mistake, and any piece of work thus managed can never in the eyes of connoisseurs be looked upon as other than a *tour de force*, utterly wanting in true artistic beauty.

The harmony of designs with other objects in the

room in which they are to be used must be also considered. Strictly speaking, although in a drawing-room it is often done, it is not correct to set a screen embroidered, say, in a mediæval style, next to a Chippendale chair having a cushion of tapestry work; while in a Moorish room, an ordinary crewel-worked tea-cloth is decidedly out of place. Glaring colours should be avoided, or used so sparingly as to gleam out like jewels from a larger expanse of subdued hues. A good rule is to employ principally, in the embroidery, shades of the same colour as that of the background. Subdued and soft colours look best against a creamy foundation such as Kirriemuir twill; and wherever possible, crewels should be chosen dyed with vegetable, not aniline, dyes.

Materials.—The materials used for the purposes of embroidery are as varied as the uses that may be made of the work when finished; in fact, it may be stated that any and every fabric, provided that it has not a conspicuous pattern of its own already, may be thus ornamented. The richest silks, velvets, and damasks are required for Church work, but for the ordinary decoration of the home few materials lend themselves so well as linen to the display of good workmanship, carried out with either wool, flax threads, cotton, or silk. Serge, plush, or cloth is suitable for portières; satin or silk for small fancy articles, such as table-cloths, cushion-covers, and the like.

For embroidery on thick materials, tapestry wools are most commonly used where a bold effect is desired, crewel wools of two degrees of coarseness being chosen for thinner materials. Appleton's crewels are considered the best and most convenient; they are sold in lengths cut ready for use, and are to be had in an infinite number of well-graduated shades. Filoselle is the most generally useful make of silk, as two or more strands can be taken together if one is not enough. Floss silk is much employed in Church needlework, but is apt to become rough if used for articles that are subjected to hard usage. Workers who like a twisted make will find an abundant choice of colour in crewel and washing silks. Flax threads are a production of comparatively recent date, and are invaluable for their qualities of durability, glossiness, evenness, and artistic colouring. The old-fashioned in-grain cottons are still used for some purposes, but the silky texture of flax has almost driven them out of the field. Besides these, there are fancy threads innumerable, of silk, wool, and cotton, which are sometimes useful, principally for outlines; but as the fashion for these is constantly changing, no attempt can be made to detail them here.

Japanese gold thread is extremely useful; and if

a good quality be chosen, it may be depended upon as not likely to tarnish. It is sewn down to the foundation material with fine silk, and small stitches are laid over it at regular intervals. Gold purl is sold in several sizes: it resembles a cord of metal wire closely twisted. It is hollow, and is used, after being cut to the length required, in the same way as beads, the needle and thread being taken through the centre. Gold passing is an exceedingly slender make of gold thread; it is so fine that it is quite easy to draw it through the material, but usually it is sewn down with fine sewing-silk and invisible stitches. Spangles, beads, imitation jewels, and gold tissue, are also occasionally used as enrichments to handsome embroidery.

The needles chosen must depend upon the nature of the work they are to execute. Ordinary embroidery needles have long, oval eyes, those used for canvas work have long eyes and blunt points, but for chenille the points must be sharp and the eyes very large.

Ordinary sewing needles are convenient for couching down gold thread, and a carpet-needle is often required for drawing the ends of coarse twist, fine cord, or purse-silk through to the wrong side of the material.

The worker who desires to excel in fancy needle-work should be particular in the choice of her thimble. Of whatever material it be made—whether of ivory, silver, or china—it must be of such a kind as will not catch and fray the silk. Hence, for this reason, an old metal thimble is to be preferred to a new one; but an ivory one is perhaps best of all. For embroidery that is executed in a frame, a thimble is required on each hand, as one hand should work below, the other above, the frame. Ladies who are deft in the use of their left hand will, naturally enough, have the advantage of those to whom this

is only possible after a considerable amount of practice.

The Frame.—It is advisable to execute all embroidery of an elaborate character in a frame, as this will prevent the stitches from puckering or drawing the material out of shape. Large pieces of work require to be stretched in a stand-frame, which, although rather a cumbrous addition to the furniture of a room, gives the worker the free use of both

hands, and obviates that stooping over her work which is so injurious to the health. For smaller embroideries a frame such as that in Fig. 1 is very convenient, and by no means costly. The largest size of all, which will hold a square yard of material, can be had for half a guinea. Sometimes the top and bottom bars of the frame are round, like rulers, instead of being flat, as shown in the illustration. There is considerable art in “dressing” a frame successfully. No undue strain must be made on the material, and it must

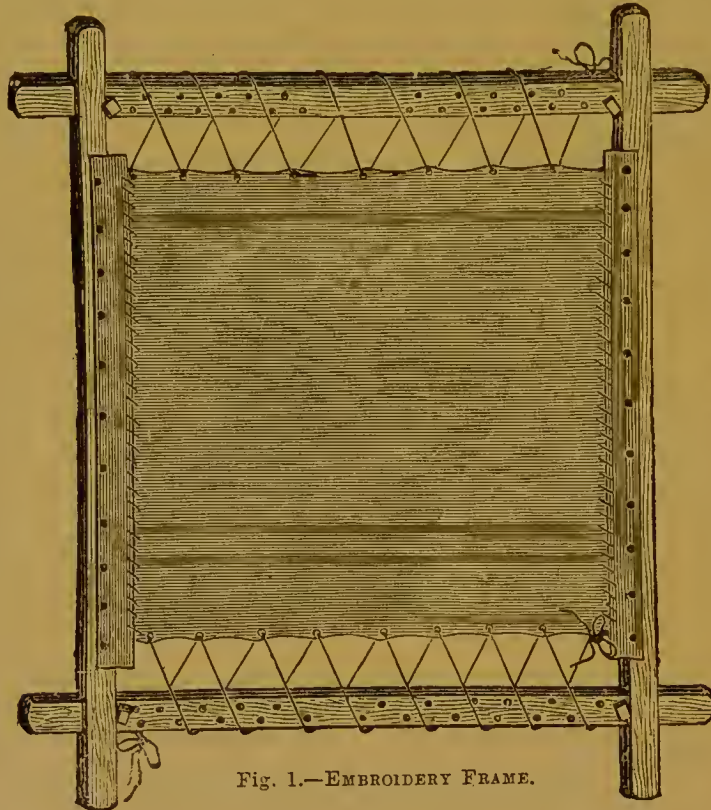


Fig. 1.—EMBROIDERY FRAME.

be mounted mathematically straight according to the threads, or the work will never set as evenly as it should do. The fabric to be stretched should be hemmed all round, then sewn strongly down the sides to the webbing which is nailed on the bars of the frame. The frame must be large enough to take the width of the material easily; but, if necessary, the material may be rolled round one of the rollers, leaving only as much undone as the frame will hold. Put the frame together—the material being stretched, not strained, to its fullest—and fasten the bars by the little pegs supplied for the purpose. Thread a coarse needle with strong twine, and lace it backwards and forwards through the material and over the stretcher of the frame. This will require to be done along one edge only, should any of the fabric be wound round the roller. Finally,

draw these twine stitches up as tightly as can be, and tie the ends securely. Velvet generally requires lining with fine holland if very thick work is to be executed upon it. The holland is framed first, and the velvet fastened down to it. For this, embroidery paste is required, which is spread over the holland. The velvet is then laid upon it, and the two materials are pressed together on the under side until they appear to have adhered firmly and without wrinkles. Satin is backed in the same way, but is tacked, not pasted, to the lining. Embroidery paste is easily made, and the following recipe may be depended on:—Mix half a teacupful of flour and an eggspoonful of powdered resin into a smooth paste with a little cold water, boil this for five minutes in half a pint of water, stir it well, adding a teaspoonful of essence of cloves. Take it off the fire, and set it aside to cool, stirring the mixture occasionally.

Tracing the Design.—Once the design is selected, the first thing to be done is to trace it upon the material. The method of doing this varies according to the nature of the fabric. Upon firm materials such as satin, cloth, or silk, the pattern can be easily marked by the aid of tracing-paper or carbonised linen. The linen is laid upon the face of the material, and over that is placed the design, the outlines of which are then followed with the point of a hard pencil, a bone crochet-hook, or some similar tool. The material, patterns, &c., should be laid upon a hard wooden table or a sheet of glass. A marble pasteboard answers very well. When the lines have all been followed, and the linen and the pattern are removed, the design should be seen plainly reproduced upon the material. If this is rough and woolly, it will probably be necessary to strengthen the outlines with a paint-brush dipped in Chinese white, or stitches in white or coloured cotton. A design must be pounced if required upon velvet or plush, as neither of these materials will bear without injury the hard pressure involved in the use of tracing-paper. It is then necessary first to prick the outlines of the pattern. Lay the sheet of paper, upon which the design is drawn, upon a number of folds of blanket or thick flannel. Take a large needle or bonnet-pin, and prick holes with it close together along the lines of the pattern. When this is done, place the pricked paper upon the face of the velvet, and weight it heavily at the sides to keep it from slipping. Get a round piece of muslin or net, and tie up in it finely-powdered French chalk or blue, according to whether the material is light or dark in colour. Rub this over the design very thoroughly, so that the powder works through the pin-holes to the material below. Then raise the paper carefully, so that the tiny dots of chalk on the velvet are not

disturbed, and paint them over with Chinese white, as before described. Workers who do not care to take all this trouble should procure the designs to be had in Messrs. Briggs & Co.'s transfer papers, which require merely laying face downwards on the material and pressing with a moderately hot flat-iron. A great variety is to be had in these, and they are suitable for most purposes; but of course they do not help the embroideress who has ideas of her own regarding the designs for her needlework. It is always advisable to get the pattern marked distinctly upon the material before stretching it in the frame, as there will be considerable difficulty in doing it afterwards without disturbing the stitches which hold it in place.

Classes of Embroidery.—Embroidery may be roughly classed, according to the nature of the designs, under three heads—Naturalistic, Conventional, and Geometrical. It is as well to take the Naturalistic branch of the subject first, although it is not very generally worked nowadays; neither is it appropriate to so many purposes as are the other two. The stitches used in this type of embroidery are exceedingly simple, and are only such as may be learnt, without any previous knowledge, with merely an hour or so's practice. It is in the shading and manner of disposing the stitches that skill is required.

Stitches for Naturalistic Embroidery.—

Long or feather stitch is that most frequently used as a filling for the petals of flowers, and leaves. It is shown in Fig. 2, and consists really of a long and short satin stitch worked alternately. It is usually commenced at the edge of the leaf or petal, and can be arranged so as to give an indented or an even edge to a leaf, as required. It is worked in rows, slanting according to the slope of the pattern. In the diagram of the *Marguerite*, the stitches in the leaves should be carried across them from the edge to the midrib, as shown in the bottom leaf on the right-hand stem. This stitch is invaluable as a filling, owing to the ease with which the shades may be arranged to melt imperceptibly one into another. The name of feather-stitch has been given to it owing to a fancied resemblance to the plumage of a bird.



Fig. 2.—FEATHER STITCH.

Outline or *crewel* stitch is used mainly for outlines, as its name implies, and for stems and similar fine lines. As will be seen by reference to Fig. 3, it consists merely of a short, slightly slanting stitch, the wool or silk being kept at the right-hand side of the needle in working upwards, and at the left-hand side in coming down. If the stitch is properly worked, it should form an almost unbroken line upon the pattern, and the main part of the thread should be upon the face of the material. It is by no means necessary that the stitches shall be all at equal distances apart; for instance, in working leaves with indented edges, the shape of these may be given by the difference in length of the stitches.



Fig. 3.—OUTLINE STITCH.

Split stitch is similar to outline stitch, but the needle is brought up *through* the thread each time, and thus causes it to set still flatter against the material.

French knots (see Fig. 4) are largely used for the centres of flowers, and for such fruits as raspberries or blackberries. They are worked thus:—Draw the needle up from the wrong side of the material, hold the silk or wool with the thumb and finger of the left hand, and twist it once, twice, or three times round the needle, according to the size of the knot. Continue to hold the thread, but put the needle back into the foundation, close to where it came up, and draw it through in the usual way, holding the wool with the left hand until the last possible moment.

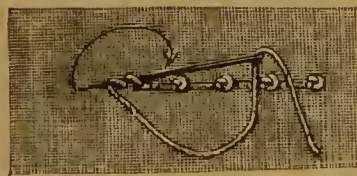


Fig. 4.—FRENCH KNOTS.

The result should be a firm, round little knot, almost like a bead in shape.

TO SHADE NATURALISTIC EMBROIDERY.—

In naturalistic embroidery as much attention must be paid to the shading as in painting, and the first thing to be decided is the direction in which the light is supposed to fall upon the design. In the diagram in Fig. 5, the light shall be considered as coming from the left-hand side. This will necessitate the flowers to the left of the sketch being lighter in tint than those to the right, as they, it is supposed, are nearer the light. If the marguerites



Fig. 5.—MARGUERITES.

are to be white, at least two shades of silver-grey must be chosen for the shading; if yellow, three shades. Three tints of olive must be procured for the leaves, and two shades of dark brown for the centres of the flowers. It is as well to begin the work with the flower at the left-hand side of the stem. Commence at the tips of the petals, work in feather stitch, arranging so that the stitches run from the tip to the base of the petals, and point slightly inwards when they reach the bottom. The first (lightest) and second shades should be used for the petals marked 1 and 2, in those marked 3 the same shades are required; but as these petals are in a fuller light than any of the others, the lightest of the three shades must predominate. In the remaining petals, the three shades are used; the darkest most abundantly in 4 and 5, as they are further from the light than the others. The petal marked * must be worked with the two dark shades only, as it comes slightly under the shadow of the partially opened flower just above it. In the same way the shades must be arranged in the fully-expanded flower to the right. The left-hand petals must be worked with the lighter shades, those at the right hand requiring greater use of the dark shades. Brown is to be used for the centres of the marguerites, which are worked in French knots—the lighter shade being arranged at the left-hand side of the design. Feather stitch is used also for the leaves, the stitches being arranged so that they run from the edges towards the mid-rib. The smaller leaves should have more of the light

shades in them than the larger ones; the darkest leaf of all is that just below the left-hand flower, which overshadows it. The shading must be managed according to the same principles as that of the flowers. The tip of the lower right-hand leaf is arranged to turn under, so that here the slope of the stitches must be slightly altered, and must run parallel to the outlines of the tip of the leaf. The veins and stems are put in with outline stitch, the darker shade of green being used wherever the stem appears to be shadowed by the flower or leaf just above it.

In the daffodils (Fig. 6) the light may be considered to fall from the top towards the right-hand side of the sketch. In this case the inside of the flower marked A, the upper part of B, and the side of C, will be the portions in which the palest shades must predominate. About three shades of clear yellow, and as many of orange, will be needed; the leaves will require three shades of a rather clear tone of green; while two shades of dull greenish-yellow will serve for the sheath of the flower B. As one of the sepals of A is slightly curved upwards, this edge will



Fig. 6.—DAFFODILS.

catch the light more strongly than those which are flat. Much that has been detailed concerning the marguerites will apply here also; but as the daffodils are so totally different in shape, the stitches must be disposed in a different direction, in order to carry

out the idea of roundness in the form of the flower. In the leaves the stitches must be taken lengthwise between the outlines, instead of being sloped towards the centre, as in the daisies. Very tiny flowers may be worked in satin stitch, but this is rarely used over a space that is more than half an inch in width.

Conventional Embroidery.—The stitches used in embroidery of a conventional type shall next be considered. Foremost in this style of needlework is that used for ecclesiastical purposes. Here,

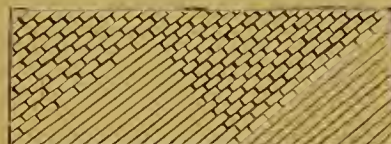


Fig. 7.—BRICK STITCH.

although naturalistic designs are occasionally employed, a conventional method of treatment is preferred; and couchings of many kinds are characteristic of the work.

The simplest of all *couchings* is that known as "brick" stitch. The space to be filled is first of all covered with long straight lines of floss silk. Each stitch is taken across the space to be filled, the needle is put through to the wrong side, and brought out again on the same outline, close to where it was put in; the stitch is then taken across the outline again, drawn through to the wrong side, and brought up just below as before. By laying the threads in this way scarcely any silk is visible on the wrong side; and it is not only an economical plan, as using but a small quantity of silk, but the work sets more flatly than it would do if the stitches were carried backwards and forwards on the wrong side. In Fig. 7 the threads are laid diagonally; but in whatever direction they are placed, care must be taken to make them set perfectly smooth and even, no one line being tighter than its fellows. A needleful of silk of a contrasting colour is then taken, and short stitches are made on the front of the work at regular intervals over two lines of the floss. The next set of stitches must be placed so that they alternate with those of the first row, hence the term "brick" stitch.

Couchings may be varied infinitely, according to the way in which the securing stitches are arranged. They may form vandykes, battlements (as in Fig. 8), diamonds, waves, and

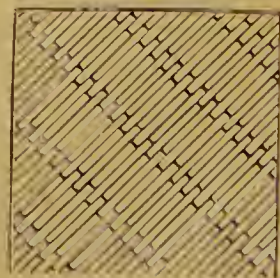


Fig. 8

many other designs. Raised couplings are managed much in the same way as flat, but are worked over

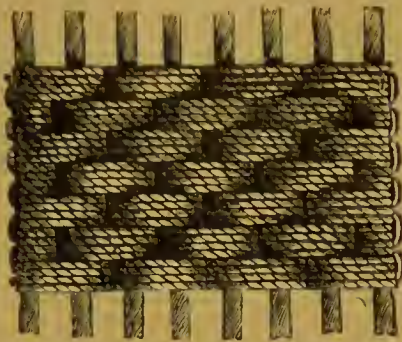


Fig. 9.—BASKET STITCH.

a foundation of padding cotton, which is laid first upon the material.

In Fig. 9 is shown "basket" stitch. Here the coarse vertical bars represent the padding cotton. Over these is laid gold thread, purse-twist, floss, or fine cord, the threads of which are caught down in sets of four with stitches of coloured silk.

An openwork coupling, such as that in Fig. 10, is often useful to form a background for thicker work. The diagonal lines should be gold thread, secured by a cross stitch where they overlap. A pearl, tiny bead, or French knot, fills the centre of the square space between the laid threads.

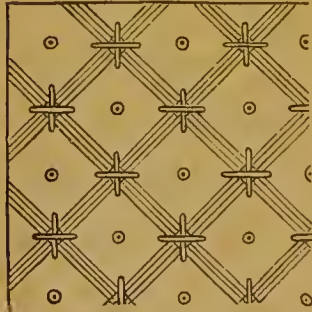


Fig. 10.

Though couplings are usually considered as more especially suitable to church needlework, there is no reason why they should not be employed also for secular work. Brick stitch—or laid work, as it is

now frequently called—was often used upon old Italian hangings and coverlets, and is particularly effective for covering large surfaces. When employed in this manner, the laid stitches are usually of floss silk; these are crossed in the opposite direction by single lines of the same silk, either of the same or of a different colour, and these, in their turn, are held down with small stitches taken over them at regular intervals between a certain number of the threads of floss. It is often effective to lay lines of gold passing over the floss, and to catch these down with coloured silk. All couplings should be worked on the material stretched in a

frame, as otherwise it is extremely difficult to avoid puckering it in laying the first long lines of silk. A tambour frame is often useful for working powderings and small designs in this manner. It consists merely of two hoops of thin wood, which are arranged so as to fit one over the other like the lid of a box. The material is laid over the smaller hoop, and over this the larger one is slipped, thus keeping the work stretched tightly. These frames may be had to screw to a table, or to be simply held in the hand. The former are the most convenient, in leaving the worker free use of both hands; but the latter kind are rather less expensive, and on the whole more durable.

Satin stitch is one of the most convenient stitches for conventional forms in embroidery; but it is not suitable for large designs, as it does not set well if carried over a wide expanse of material. It is one of the simplest of all stitches. The needle is brought up from the back of the work, upon the outline of the design, and is put into the material



Fig. 11.—RAISED SATIN STITCH.

again exactly opposite the place at which it was brought up. The second and following stitches must set perfectly even with the first one. This is straight satin stitch, but it may easily be worked in a slanting direction, according to the purpose for which it is required. It has a remarkably good effect when raised in high relief over a padding, as shown in Fig. 11. All good workers use stitches to form this padding, though many people prefer a small tuft of cotton wool, or a length of soft cotton. The outline is first of all filled in with darning

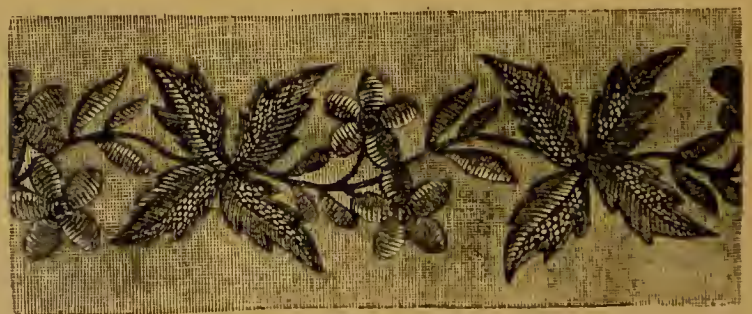


Fig. 12.—BORDER WORKED IN SATIN STITCH.

stitches, and if the relief is required much higher in the centre than at the sides, this additional height

is given by a row of chain stitch worked over the darning. In the diagram the leaf is thus raised in the centre; and a few of the chain stitches are plainly visible in that portion left uncovered by the

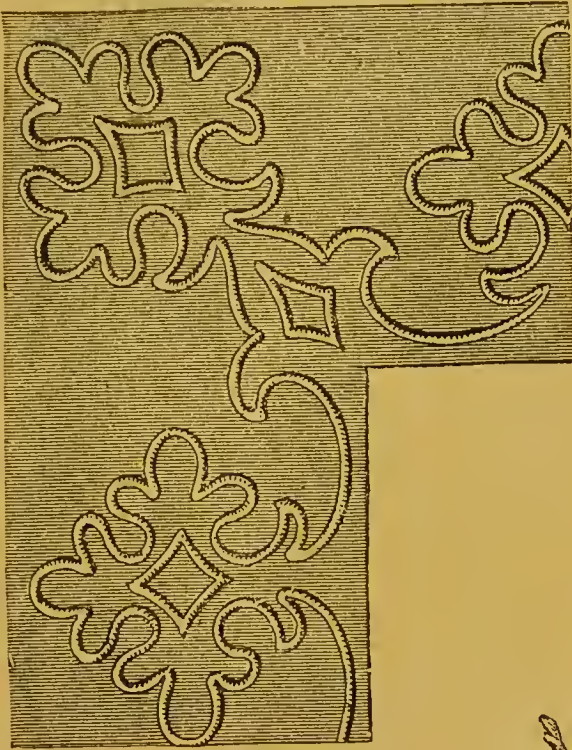


Fig. 13.—CORNER AND BORDER IN OVERCAST STITCH.

satin stitch. In Fig. 12 is shown a narrow trailing border worked almost entirely in raised satin stitch. It is also much used upon cambric, for pocket-handkerchiefs, for ornamenting table and household linen, and for working initials and monograms.



Fig. 14.
CHAIN STITCH.

When satin stitch is worked very small, over a single line of the design, it is generally known as *overcast* stitch, and is used to mark out such stems and fine lines as are required to be more prominent than when stem stitch is employed, and to work eyelet-holes in what is now known as English embroidery. Overcast stitch may be worked either slanting, flat, or raised. If to be raised, it is usually laid over a foundation of fine cord, and it is this form of the stitch that is shown in Fig. 13.

Chain stitch is useful for

tracing straight lines, and the outlines of a design. It may be roughly described as a sort of button-hole stitch worked vertically instead of horizontally, each stitch being looped into the preceding one, and taking up a small piece of the material. (See Fig. 14.) Chain stitch, has fallen rather into disfavour of late years, owing, probably, to the ease with which

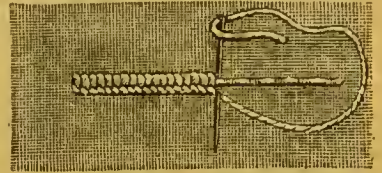


Fig. 15.—CLOSE BUTTON-HOLE STITCH.

it may be imitated by machinery; but some of our most beautiful specimens of antique work are executed in this stitch, and it would be well worth reviving.

Button-hole stitch is largely employed round the edges of such designs as have to be cut out and applied to other materials; or such as are finished off by cutting away the background after the rest of the embroidery is finished. When this is the case, the straight edge of the button-hole stitches must set against that part of the material which has to be

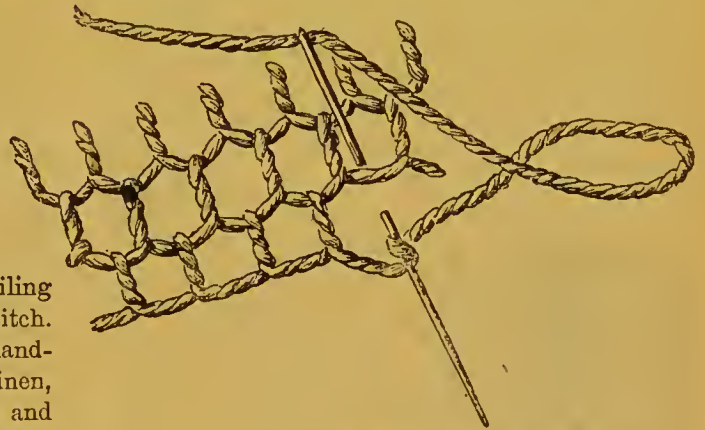


Fig. 16.—OPEN BUTTON-HOLE STITCH.

cut, as they serve the purpose of preventing it from unravelling. In Fig. 15 button-hole stitch is shown closely worked; but it makes a pretty openwork filling for large designs if the stitches are placed about a quarter of an inch apart. The stitches in the second row are looped into those of the first, and this forms a network over the face of the material, as shown in Fig. 16. The stitch is capable of endless variation, according to the way in which the sizes of the stitches are arranged. They may be graduated so as to make a vandyked, battlemented, or scalloped border; but to get them of a regular size and length it is necessary to mark out the shape of the scallops first with a pencil or tracing-paper upon the material.

Coral stitch is useful for ornamenting underlinen, or for fancy tendrils, scrolls, and occasionally for

filling conventional floral designs. It is not difficult to work, but the utmost regularity is required, no

one stitch being longer or shorter than its fellows. In learning to work it, three parallel lines, equi-distant one from the other, must be marked upon the material. To make the stitch as shown in Fig. 17, draw the needle up in the middle line, hold the cotton down with the left thumb, and make a slanting button-hole stitch from the right-hand line to the middle, one-eighth of an inch from the place where the



Fig. 17.—CORAL STITCH.

needle came out; make a second button-hole stitch to correspond with this one-eighth of an inch below it on the left-hand side of the central line; and continue thus, with care that the stitches are regular.

Double coral stitch (Fig. 18) is worked in the same way, except that two stitches are placed on each side of the middle line. The stitch is improperly worked if the middle line does not form a perfectly regular vandyke all along the material; many workers find it convenient to draw the zigzag line on the material before working the stitch, thus insuring its absolute symmetry. *Treble coral* requires three stitches on each side of the centre stem.



Fig. 18.—DOUBLE CORAL STITCH.

Feather stitch, as shown in Fig. 19, is somewhat similar to coral stitch, but is worked on one side only of the centre line; *double feathering* requires the stitches made on each side of this line, and they are arranged opposite each other, not alternately, as in coral stitch. This feathering is a very favourite stitch in conventional embroidery for filling in the outlines of small leaves; the spiky nature of the stitch conveying a certain resemblance to the veins.

Herring-bone stitch is occasionally used for the

same purpose, as well as for outlines. Its appearance is greatly improved if a thread of a contrasting colour be darned in and out the long slanting stitches.

There are many other fancy stitches which bear a more or less strong resemblance to those given here, which have been selected as those most frequently used, and may be considered as the most effective of their class.

The following two or three stitches are useful as dotted fillings for those parts of a design which it is considered will be more effective if the background is visible between the stitches, than if it were entirely covered:—*Dot* stitch is worked in two different ways, according to the size of dot that is required. If large enough to allow of it, a small circle is marked on the material; this is outlined with tiny darned stitches, and then covered with overcast stitches until a raised, but perfectly round, spot is made. Smaller dotting still is made by working one or two back stitches, which are taken over only two or three threads of the material. (See leaves in Fig. 12.) *Cross*, and *Leviathan cross*, stitches are often sprinkled over a portion of a design as a filling. They will be more fully explained hereafter.

Rice stitch consists merely of a number of slanting stitches, about a quarter of an inch long, which are powdered at random over the material, but as they are all connected, they have the appearance of a network of silk laid over the work.

Small stars, such as those in Figs. 20 and 21, are often required for sprinkling over the portions of a very large design.

In Fig. 22 is given a small stitch variously known as *point à la minute*, *bullion knot*, or *roll* stitch. It is useful in many ways; several may be grouped to form a star, as in the illustration, or they may be dotted singly over the background. Conventional wheat-ears and grasses are frequently worked in this stitch. There

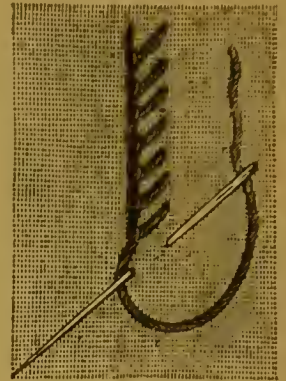


Fig. 19.—FEATHER STITCH.



Fig. 20.—STAR FOR POWDERING.

is a knack about the working of bullion knots which the worker must not expect to gain all at

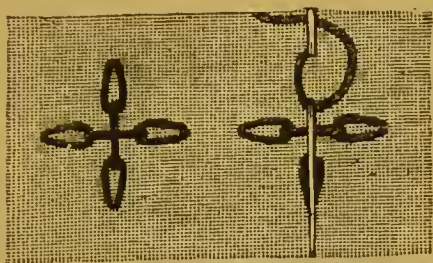


Fig. 21.—STAR FOR POWDERING.

once, but once gained, she will wonder how she could have ever found any difficulty in the matter. To work the stitch, draw the cotton through to the right side, put the needle to the material as if a back stitch were to be made, picking up a piece the same length as the knot is to be; then take the cotton between the thumb and finger of the left hand, and twist it round the point of the needle as many times as will be necessary to make the knot of the required length. Hold the twists between the thumb and finger of the left hand, and draw the needle through them; put it back to the wrong side of the work where it first came out. Draw it through, still holding the twists with the left hand, until the knot sets flat against the work. The secret of making these rolls neatly consists in holding the twists firmly until the last moment possible, for, if they are allowed

to go free too soon, they will become disarranged, and few workers will be able to get them into shape again.

Very handsome embroidery may be made by devoting the main part of the work to the background instead of to the design. (See Fig. 23.) Sometimes the background is entirely covered with darning stitches. These are often worked in wool upon linen, and are irregular in



Fig. 22.
BULLION KNOTS.

size, only two threads of the material being taken up between each stitch. The foundation should be as evenly woven as can be, with distinct threads, such as are easily picked up by the needle. If something more elaborate be desired, the stitches can be arranged to form squares or diamonds; the latter look well if a French knot be worked at each intersection. In such embroidery as this, the design proper should be almost entirely executed

in outlining, as much of the effect will be lost should this be filled in heavily and richly with stitches. Ordinary back stitch makes a pretty filling, and should be worked with fine silk, so that it resembles very delicate quilting. If this be chosen, the design may be rather heavier in workmanship than if darning is used. Open button-hole stitch, worked in rows across the foundation, is a satisfactory stitch for this purpose, and gives much the effect of a piece of coarse net laid over the material. In any case, when thus covering a background with stitches, care must be taken to get the rows as straight as possible, and this is best managed by running a guide line across the material, before beginning the work, at intervals of every three or four inches. This will



Fig. 23.—DARNING GROUND.

enable the worker to see at a glance whether she is keeping the rows straight. If it is put in with the same cotton or wool as that used for the darning, it need not be removed as the work is completed.

Geometrical Embroidery.—Geometrical embroidery is made up of *cross*, *tent*, *rep*, and similar stitches; and as these mostly require working over an exact square of a material, it stands to reason that the designs must be somewhat formal and stiff in character. The work is particularly durable, and, provided that good colours and designs are chosen, the result may be perfectly artistic and in the best of taste. Any attempt at the representation of natural objects must fail, owing to the difficulty of describing flowing and curved lines with the stitches necessary for the materials. The canvas used is of two kinds—that known as Penelope canvas

has the threads woven in sets of two each way of the material. Single-thread canvas has evenly-woven threads. Java canvas is made in a series of small



Fig. 24.—CROSS STITCH.

checks or squares, sometimes intermixed with tinsel, and is ornamental enough to form a background of itself if only partially covered with work. Besides these, there are various kinds of fancy cloths, the fashion in which changes from time to time. Canvas used for church kneelers, mats, and carpets is mostly brownish in colour, so that it is less likely to look unsightly should the stitches in the course of time chance to become disarranged. Single Berlin wool is used for the smaller articles made in tapestry work, while double Berlin or tapestry wool serves for large hangings, carpets, or cushions. Upon the very fine makes of canvas, filoselle or floss is used, and pretty little fancy articles can be made. Upon coarser

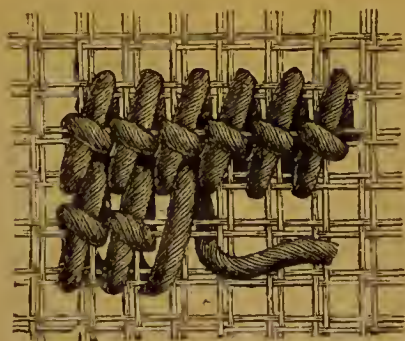


Fig. 25.—REP STITCH.

canvas may be employed some of the many varieties of chenille and other fancy threads.

Cross stitch (Fig. 24) is that most commonly used. It is worked in rows backwards and forwards across the canvas, and may be employed by itself or in combination with other stitches. It is very frequently used to form the pattern upon a background of tent or Gobelin stitch. Care must be taken not to draw the wool too tightly, or the canvas will show between the stitches, thus giving a poor appearance to the work. In working a pattern in cross stitch,

upon a material other than canvas, each stitch must be finished off at once, unless any portion of the design is set in straight rows, which can be worked as above described. Every stitch in a piece of work of this kind must be crossed in the same direction, the upper stitch of the cross slanting always from left to right when laid upon the canvas. There are several varieties of cross stitch, all depending upon the number of threads over which the stitches are taken.

Rep stitch or *Persian cross* stitch is a useful one for grounding. In the illustration (Fig. 25) it is,

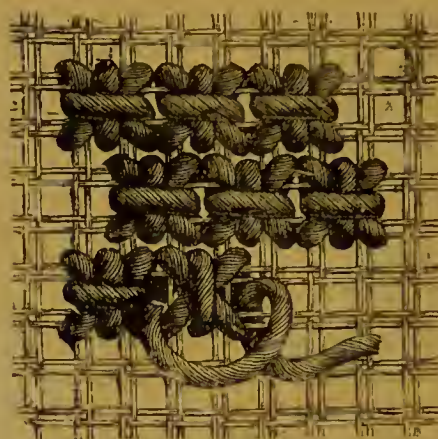


Fig. 26.—LEVIATHAN STITCH.

for the sake of clearness, worked with finer wool than is necessary for so coarse a make of canvas. In the actual work, the stitches should set so closely together that the foundation is not visible between them. *Rep* stitch is made up of one long stitch crossed by a short one worked like the second half of a cross stitch. The longer stitch is taken over six horizontal and two vertical threads of the canvas.

Leviathan stitch (Fig. 26) is made up of four

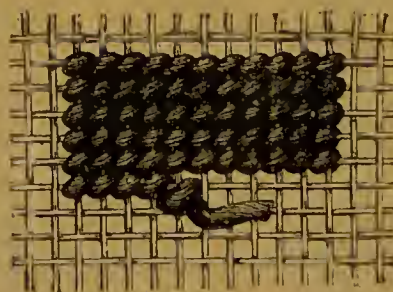


Fig. 27.—TENT STITCH.

stitches—first a double cross stitch taken over four threads in width and four in height, then above this are placed two straight stitches—one vertical, the other

horizontal. This is a useful stitch where a very handsome and rich effect is desired.

Tent stitch (Fig. 27) resembles the first half of a cross stitch; it is one of the most ancient of the

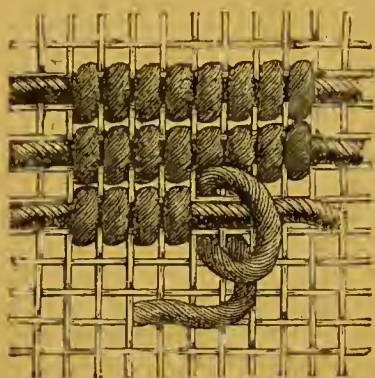


Fig. 28.—GOBELIN STITCH.

stitches used in this type of needlework. It requires a finer make of canvas than most other stitches, being single instead of double, and is, accordingly, more appropriate to single-thread canvas, as shown in the diagram, than for Penelope or any other make.

Gobelin stitch (Fig. 28) is that which gives the greatest resemblance to true tapestry; it requires single-thread canvas, and is a short stitch taken over two threads in height and one in width. It may be worked either straight or slanting, and is greatly improved by being raised over a padding of narrow braid. The two last-named stitches may be used for forming very elaborately curved patterns, but the labour involved is so great that most workers prefer to utilise the more convenient geometrical patterns, and to leave the flowing designs for reproduction by other and less formal stitches.

Plaited stitch is a useful grounding stitch, and is worked exactly as herring-bone stitch is upon ordinary materials; the stitches in each row

dovetailing into those of the previous one. Each stitch is usually worked over about four threads in height and four in width. It should be remembered that in large pieces of work of this kind, the stitch chosen for the background should be always one which forms an indistinct pattern of itself; and there are several, besides this plaited stitch, that answer this purpose.

When a geometrie pattern is required upon cloth, serge, or some similar material, which affords no guide in placing the stitches, it is often convenient to work over canvas, the threads of which can be afterwards drawn away. In Fig. 29 is given a design of this kind worked upon cloth. The canvas is tacked down to the material, and the stitches are taken through both. They must be drawn rather tightly, so that when the canvas threads are removed they do not set in loops against the background. Any ordinary geometrical pattern can be thus worked upon any material; and almost any of the stitches that are generally used upon canvas may be employed. The illustration shows half the design (which is a very simple one) still covered by the canvas; and the slight pattern renders a series of vandykes, such as these, an appropriate trimming for the edges of bookshelves, or for fancy baskets.

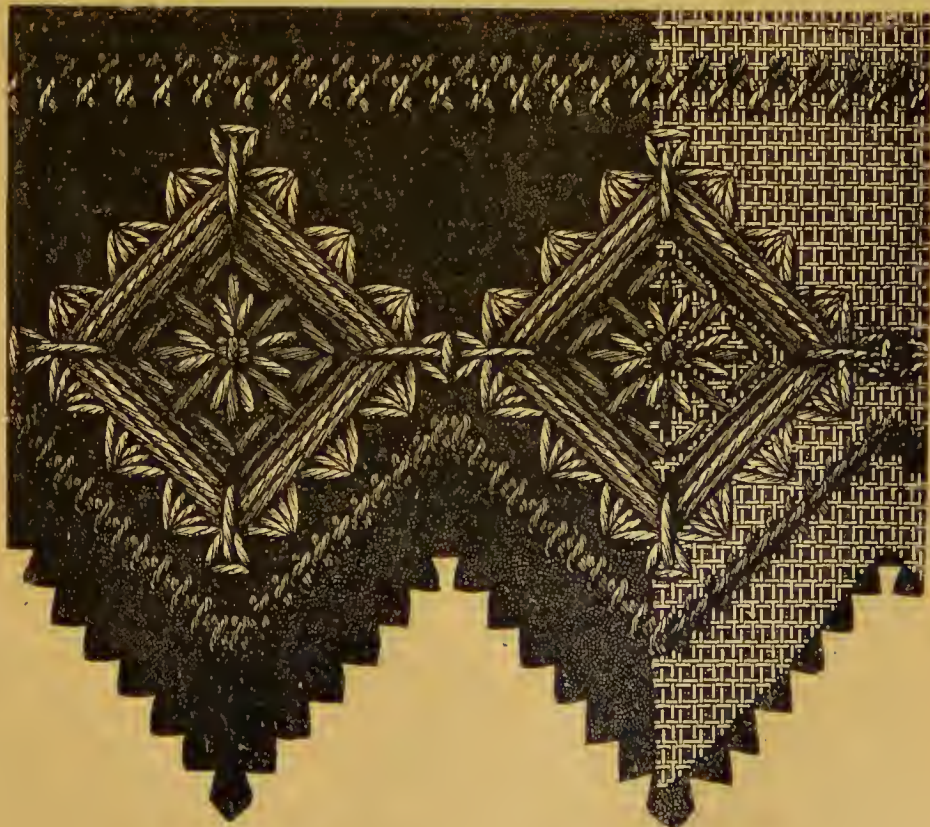


Fig. 29.—TEMPORARY CANVAS ON CLOTH.

INFANCY: FRESH AIR AND GENERAL MANAGEMENT.

INFANTS ought to be often taken out of doors, in order that they may have plenty of fresh air and light, both of which they must have if they are to grow up strong and hearty. A baby is like a plant. If we were to keep even a hardy young plant in a room where the air was never changed, and where the light was bad, it would either die or grow poor and weak. So it is with a little child. An infant wants light and fresh air, even more than a plant does.

In the chapter on Minding Baby, in her "Notes on Nursing," Miss Nightingale says, "The main want of baby is always to have fresh air. You can make baby ill by keeping the room where it sleeps tightly shut up, even for a few hours. You can kill baby when it is ill by keeping it in a hot room, with several people in it, and all the doors and windows shut. This is the case most particularly when the child has something the matter with its lungs and its breathing. I found a poor child dying in a small room tightly shut up, with a large fire, and four or five people round it to see it die. Its breathing was short and hurried, and it could not cough up what was choking its lungs and throat—mucus, it is called. The doctor, who was a very clever man, came in, set open door and window, turned everybody out but one, and stayed two hours to keep the room fresh and clear. He gave the child no medicine, and it was cured simply by his fresh air."

Not very long ago a clever doctor was sent by a kind lady to see a little baby who was lying very ill in a room up one of the narrow courts of which there are so many in London. He looked at and examined it, and then said, "No medicine that I can give will do this child good. It is dying for want of fresh air." A few hours after this the baby died. Then it was found that though it was such a poor miserable little object, it was nine months old, and had only been twice carried out of the room in which it was born, while into the room itself fresh pure air was scarcely ever allowed to enter.

Events of this kind are happening every day. At the same time it has been found that infants who get plenty of fresh air, who sleep in well-ventilated rooms, and live in nurseries where the window is thrown wide open top and bottom whenever there is the slightest opportunity, can "stand up against" much which would make children brought up less sensibly, quite ill. Also it has been found that babies who are accustomed to spend much of their time in the open air, are less liable to take cold, and run less risk of catching infectious diseases than do those who are brought up indoors.

Air is most "fresh" out of doors, and therefore a

mother who wants to do well for her infant should strain every nerve to keep it in the open air as much as ever she can when conditions are favourable; and to keep the air of the rooms in which the child lives, pure. In fine warm weather a baby should spend the greater part of its waking hours out of doors. Even when quite young, a week or a fortnight old, it will do the little one good to be carried out of doors for a while, if only he is protected from the fierce rays of the sun, and from the strong wind, and if he is carried comfortably in a recumbent position on the nurse's arm. A child whose mother was able to have him carried out thus from his earliest infancy, would be much more likely to thrive than would an infant who must be kept in during his first weeks or months of life.

This is why mothers are always to be congratulated when their children are born in the spring. If the most is made of the opportunity thus obtained, these children get a better start than do babies born later. An infant born in the autumn or winter ought not on any account to be taken out till it is a month old, nor then, unless the weather is mild and fine. As he becomes older and stronger, he may be taken out every day when it is at all possible—that is, when the wind is not easterly and when it is fine overhead, and not too piercingly cold; he will be all the better for it. He must, however, be well clothed or he will come to harm. A mother whose infant is born in the autumn or winter, needs to exercise great judgment as to his going out of doors. If she keeps him in overmuch, and lets him spend his time in warm rooms, he will assuredly be delicate; if she sends him out when the weather is too severe, a serious disease may be the result. She can but do her best; for no one can help her, because the decision arrived at must depend on the state of the weather and the health of the child. If, however, he is a healthy infant, she ought to be more afraid of "coddling" him than of giving him cold; she ought to see that he is well wrapped up, not *heavily* clad, and let him be carried in the arms of the nurse, not put into a perambulator. Thus guarded he can scarcely suffer.

Precautions.—Necessary and valuable though fresh air may be, it still needs to be taken judiciously. Of course an infant must be kept comfortably warm; this goes without saying. A little child has less power of generating heat than has an adult; and if he is allowed to be cold, he is sure to suffer. When an infant cries and writhes with pain in the stomach, it is generally the case that his feet are cold; and when these are made

warm, the pain is gone. The difficulty is that mothers and nurses are so apt to run into extremes. Those who believe in warmth, dread fresh air; those who realise the value of fresh air, now and again expose the child unduly. A child should not be carried out in rain or snow, or in a keen easterly wind; neither should he be carried out in the night air. Exposure like this would do more harm than good. Yet if the weather is fairly favourable, a child of three months old should be taken out every day, if it is only for a few minutes. Sometimes old nurses have a notion that it is well, when carrying a young baby out into the fresh air, to cover the face with a handkerchief in order to "protect him from the air." Protect him from the air! Poor little mortal! Fresh air will do him more good than anything else. Whenever the air is so keen that the infant needs to be protected from it, he had better be kept indoors. In any case, putting a handkerchief over his face will not help him, for it would cause him to re-breathe the same air again and again, just as he would re-breathe the same air if the bed-clothes were put over his mouth. The very fact that his lungs are feeble makes it important that he should take pure air into them, because this will make them stronger. To breathe impure air will be likely to cause consumption.

Sometimes we hear mothers whose babies are fairly healthy otherwise, say, "I cannot send my little one out very often, because he cannot stand the air. He is quite well indoors, but as soon as he goes out, he gasps." Mothers who have this experience should, before they make up their minds that the child is not constituted like other babies, examine his clothes for a moment; for the probability is that these are too heavy. If they bear down the feeble little chest underneath, of course the child will not breathe easily. When an infant has been made delicate by having one garment after another piled upon him, to know that the lace with which those garments were trimmed was real Valenciennes, and that the shawls were of the most superior quality, would not furnish much comfort.

While some mothers are afraid of fresh air for their babies, others go to the opposite extreme, and expose them to all sorts of weather in the hope of hardening them. These will take the infant out at any time—in fog, snow, intense heat, and after dark—and then lay the flattering unction to their souls that they do not "coddle" their children. This is true, but they behave most foolishly for all that, as they expose their children to most serious danger. The fact is, that when the propriety or otherwise of taking a child out is in question, a mother must use her judgment. Common sense will tell her that it cannot be wise to take a little child out in bad

weather, or at night. The object in sending a child out is to give him the opportunity of breathing fresh pure air. If this cannot be without his being wet through, chilled to the bone, or exposed to hot rays of the sun, then let him remain indoors.

A mother should be especially careful to guard a baby from the fierce rays of the summer sun, for fear of sunstroke; indeed, she will do well, in all cases, to keep an infant within during the hottest part of the day in the middle of summer. A wise mother will always consider the season of the year in arranging the hours during which the child is to go out. In cold weather she will prefer the middle of the day; in hot weather, the early morning and the cool of the evening. And she will remember that the periods of greatest danger, and, therefore, those during which the greatest care must be exercised, are the end of spring and the beginning of autumn. The most sudden changes of the year occur at these times, and children are much more sensitive than are grown-up people to sudden changes of temperature.

Another period during which children require special care, is that of intense heat combined with drought. It is during weather of this kind that infantile diarrhoea prevails, and this disease is the mother's great foe. War slays its tens, but infantile diarrhoea slays its hundreds of human beings; and it is especially likely to attack babies who have to be brought up by hand, and who are taken out in the heat of the day.

Perambulators and Carriages.—The employment of perambulators is a matter of course in these days, and there is no doubt that when rightly used, they are a valuable aid to the mother or nurse. Once of a day, perambulators were productive of much mischief; but modern improvements have done away with the fear of harm in this direction where a good perambulator can be obtained, and where common sense is exercised. When about to buy a perambulator, an effort should be made to procure a carriage with the modern improvements, because the well-being of the infant will be affected thereby.

The single open perambulator, in which the child has to sit upright, with his back to the nurse, is not fit for an infant; it is suited only to children of a larger growth. What is wanted for an infant is a double perambulator, which can be turned from one end to the other, with a handle at each end, so that the nurse can push the carriage while facing the baby, and fitted with a folding hood for rain, and a holland shade for sunshine. The double handle is not so common as it ought to be, but otherwise the ordinary four-wheeled carriage fairly fulfils

these conditions, especially if furnished as described below. But the springs remain to be considered. An infant carried in a mother's or nurse's arms is entirely free from shock: it may be moved about, even with some force, but its spine feels no *vibration*, the most subtly injurious of all forces. This cannot be said of a large number of infants' carriages. They have springs of some sort or other, but these by no means absorb all the vibration caused during propulsion. By far the best arrangement yet devised to avoid this is known as the "Hammock" carriage, shown in the figure, in which the carriage is slung by four leather straps from bars carried by C-springs. By this, all metallic connection is broken, and the difference to the infant is one of *kind* rather than degree. A perambulator made on this system is rather more expensive, ranging from about £3 with 16-inch and 23-inch wheels, to £4 and upwards for 23-inch and 27-inch wheels; but the advantages to the infant are so great that this should not weigh in comparison—and, indeed, the extra cost would probably be economy in the end.

As a very young child spends as many sleeping as waking hours in the perambulator, he should, until he is six or eight months old, lie in a recumbent position when occupying it. Mothers who have an ordinary double carriage may easily make provision for this by adopting the following advice, given by a clever mother, Mrs. Isabel Wallack. This lady says:—"The plush seat in the carriage is very pretty; yet take it out, and let it remain out for at least a year. Now provide a yard and a half of bed-ticking and sufficient hair or moss to make a mattress which will be ten inches shorter than the floor of the carriage from one end to the other, and two inches narrower. This mattress should be made in two pieces, one longer than the other by three or four inches. These mattresses, which should not be stuffed too hard to be comfortable, should be made about two and a half inches thick, and tufted like those used on beds; this can be done with a coarse darning-needle and cord. They are easily made, and are priceless as far as real comfort is concerned. The young child lies flat upon them, with a feather pillow beneath his head. As

he grows older the pillow is placed behind his back, and he sits upon the larger half of the mattress; the smaller one is then placed at the foot of the carriage, and becomes a foot-rest, which entirely prevents his slipping downwards. It is on this account that the mattress should be divided: the two together provide the long one necessary for a very young infant, and divided they add to the welfare of the older child. If the latter fall into a doze, the mattress upon which he sits is pulled slightly forward, the other one pushed back to meet it, the pillow can be lowered, and without disturbing him

the child can be made as comfortable, and sleep as peacefully, as if he lay in his crib. For obvious reasons it is well to coat one side of the larger half-mattress with oil-silk, and as a further precaution it can be covered with a pad. Muslin slips as pillow-cases may also be provided. The small pillow should fit easily into the back of the carriage, and requires from four to six pillow-slips. The pillow itself is covered with silesia of the same shade as the carriage trimmings.

"A change of linen, a china cup (for a child should never drink out of a public cup), in warm weather an extra wrap to

guard against a sudden change, and in cold weather an additional coverlet and a bottle of hot water for the feet, should always find a place in an infant's carriage."



HAMMOCK CARRIAGE.

Ventilation of Rooms.—No matter how much children go out of doors, they must necessarily spend a large portion of their time in the house. It is most important, therefore, that the rooms in which they live should be well ventilated. The surest way of doing this is for the mother to be on the alert to open the windows widely, top and bottom, and the doors also, whenever the children are out of the room; and, in dry warm weather, to let them be open a little at the top even during the time the children are in the room. Children breathe more rapidly than grown-up people; this is one reason why it is of the greatest importance that their rooms should be well ventilated. Another reason is that the vitality of infants is lowered by bad air.

Dr. Angel Money says, "A vitiated atmosphere would cause certain death to infants by protracted poisoning. An hour of it must deteriorate vitality. I have entered the 'nursery' of good houses. Many such breed disease, not children." In the night, ventilation is more requisite even than in the day. In bedrooms, fire-places and chimneys should always be left open; thick bed-curtains and cosy hangings should be taken down; and gas, lamps, etc., should be put low or taken away as soon as done with. A single candle consumes as much air as a human being, and one gas-burner consumes as much air as three persons. In cold weather, however, the determination to ventilate the rooms must not lead the mother to let the room be chilly for the children, especially when there is an infant amongst them. Very young children have less natural warmth than older ones. Also care must be taken not to let a draught blow upon the child. Draughts are very dangerous; and it is most likely because this fact is known that so many mothers are afraid of fresh air. They think the one cannot be had without the other. Yet hear what Miss Nightingale says:—

"About the draughts. It is all nonsense what some old nurses say, that you cannot give the baby fresh air without giving it a chill; and, on the other hand, you may give baby a chill which will kill it (by letting a draught blow upon it when it is being washed, for instance, and chilling its whole body, though only for a moment) without giving it fresh air at all. And depend upon this, the less fresh air you give to its lungs, and the less water you give to its skin, the more liable it will be to colds and chills. If you can keep baby's air always fresh indoors, and out of doors, and never chill baby, you are a good nurse."

Light and Sunshine.—Light and sunshine are also essential for infants. Instances have been known in which children brought up in dark rooms where the sunlight could not enter, have grown up to be idiots. Children, on the contrary, who are accustomed to the sunshine, are made thereby active, quick, and full of glee. Most of us know how cheering it is to live in a room where the windows are bright and clear, and how depressing it is to live in a room where the windows are dirty and smeared. Children are, without knowing it, very subject to influences of this nature. Their tempers are improved and their spirits rise when they dwell in the light. A wise mother will never forget this. She will on no account permit the room in which the children live to be made sombre and gloomy with hangings and shades; but will freely admit the sunshine, and make the apartment as attractive as she can with coloured pictures and books.

"Minding" a Baby.—A great many nurses have an idea that to "mind a baby" they must never leave it alone, they must carry it in their arms during the whole time, and sing to it or jump it up and down, or dangle it. All this is a great mistake. Babies, even when very young and awake, should not be carried in the arms, or even left to lie in the cot, very long. They should be laid down in a safe place, free from draughts, and where there is no danger of their falling or hurting themselves, and there they should be allowed to stretch their limbs to their heart's content.

As an infant grows older and stronger he should be encouraged to roll, crawl, and kick, because by these means his limbs will become strong and sturdy. Limbs cannot grow strong unless they are used, and a baby who is allowed to roll and kick about at his pleasure will be much less likely to have bent legs, and misshapen ankles or feet, than is a baby who is always in the nurse's arms. It is a great pity to accustom a child to be constantly nursed, for it does not benefit thereby, while to mind a baby in this way completely ties the nurse's hands, and makes it impossible for her to do the one hundred and one things which are necessary for the baby's comfort.

Mothers who see the reasonableness of letting an infant kick and sprawl on the floor at his own sweet will, but who do not exactly like the idea of letting him lie on the floor, may be persuaded to make a nursery carpet, and thus follow the example of the mother whose method is held up as worthy of imitation in the excellent Household Traits published by the Ladies' Sanitary Association. Of this carpet the following description is given:—

"The baby, now nearly four months old, lay kicking and crawling on a clean coloured quilt or nursery carpet, which was one of Anne's household treasures, and a treasure to which her babies were mainly indebted for their fine strong healthy limbs. This carpet deserves a mention, as it is within every one's reach to procure. First of all Anne had sewn together two or three widths of stout grey calico, and formed thereof a bag about two yards square. This bag she had filled with oat-flights, as they are usually called, obtained for a few pence of the corn-dealers, and forming a tolerably easy mattress for the purpose. The patch-work quilt was of old dresses of various colours and dates, but gay enough to please the baby. On this quilt, secure from all harm, and from bumps and thumps, or tumbles, Anne's children had passed many an hour in infancy. They had none of those sad bent legs which are so commonly seen among children, and which are as commonly to be traced to bad nursing. Believe me, this nursery carpet is worth your trying. A child is none the better, be it rich or poor, strong or delicate, for the constant heat of the lap or the nurse's arm. The enjoyment

with which it will first kick and then crawl on the mattress, will soon convince you, if you try the experiment, that your baby at a very early age likes liberty."

A cushion of this kind could in fine summer weather be placed on the grass, and if a soft wool ball or a rag doll were given the baby to play with, he would be very happy. Of course he ought not to be left alone without any one to speak to him or sympathise with him: babies like company. Yet it would be possible for a mother or nurse to sit by the side of an infant sprawling thus, to keep him company and "mind" him, and at the same time put in many needed stitches.

There are times when an infant must be carried in the arms, and it is astonishing how some people seem to have no notion how this should be done. A person of experience can tell in a quarter of a minute by the way in which a stranger takes hold of an infant, whether or not she is accustomed to babies. If she is not, the child will be restless and unhappy until it gets out of her arms. To people who wish to acquire the correct method, the following hints may be of value:—

During the first few weeks of life, an infant should be carried carefully on both arms, and lie as it does in bed. It should be turned from one side to the other frequently, to keep it from being cramped. Careful nurses very often carry the small burden upon a pillow at this stage, they are so much afraid of injuring the soft bones and tender muscles. When three or four weeks old, the child may be carried in a reclining position on the nurse's arms, but great care should be given to supporting its body and head completely. This is best accomplished by "reclining the infant upon the fore-arm, the hand embracing the upper and hinder part of the thighs; while the body and head are supported by resting against the breast and arm of the nurse."

Until a child is six months old, a nurse should be careful to support the spine and head thoroughly, and up to this age he should not be carried upright so that he bears his own weight. He should not be left sitting or lying very long in one position. It is unfortunate for children that so many in these days are left in the care of young nurses, who thoughtlessly or ignorantly "mind the baby" so roughly that they run the risk of doing great injury. A nurse who keeps a young infant upright on her knee, jolting it violently meanwhile, or who drags him by one arm when just able to walk, may in a few minutes cause mischief which years will not remedy.

Learning to Walk.—The best way of teaching a child to walk is to let him teach himself. Some

mothers are so wishful that their children should go alone, that they encourage them to stand by chairs, tempt them to make an attempt by giving them one finger wherewith to steady themselves, and hold out their arms to induce the little one to take a few timid steps alone. All efforts of this kind are harmful, and still more harmful are "leading string carts," "baby jumpers," and similar contrivances, all of which throw the weight of the body upon the feet. The mother may make up her mind to one thing; when her child is strong enough to walk, he "will find his own legs," as the saying is. But no one can make that important discovery for him so well as he can make it himself. It is always safe to let a child crawl, and use his limbs, if placed where he cannot hurt himself; but to induce him to stand or to walk before his legs are strong, is to take the surest way of making them crooked. Mothers who suspect that their children's legs are becoming bent through injudicious efforts of this kind, would indeed do well to prevent the child getting upon his feet awhile, by putting both legs into a large stocking, doing at the same time all they can to promote the general health, and sponging the legs with cold salt water. This treatment, a medical authority tells us, will effectually answer its purpose; while, at the same time, it will not prevent the free and full exercise of the muscles of the legs. After pursuing this plan for some months, the limbs will be found to be no longer deformed; the bones to have acquired firmness, and the muscles strength. This, however, is an extreme measure. For the most part a mother's whole duty in this direction consists in "letting well alone."

Cleanliness.—Cleanliness is next to Godliness, according to the proverb, and in addition to this recommendation it has another one, it is a grand incentive to health. Mothers who want their children to be healthy, must on no account neglect to keep them clean by thorough washing and drying.

In the early weeks of an infant's life, it should be washed night and morning. The water may be contained in a nursery-basin, large enough for the child to be dipped right into it, so that the water from a well-filled sponge may be streamed over the back and the lower part of the bowels. This water should not be quite cold. Some mothers have a great idea of using cold water for washing infants, even from the first; they think that it hardens the child. This is what Dr. Chavasse says on the subject:—

"It is not an uncommon plan to use cold water from the first, under the impression of its strengthening the child. This appears to be a cruel and barbarous practice, and is likely to have a contrary

tendency. Moreover, it frequently produces inflammation of the eyes, stuffing of the nose, inflammation of the lungs, or looseness of the bowels. Yet, although I do not approve of *cold* water, we must not run into an opposite extreme, as hot water would weaken and enervate the infant, and thus would predispose him to disease. Lukewarm rain-water will be the best to wash the baby with. This, if it be summer, should have its temperature gradually lowered, until it be quite cold; if it be winter, a dash of warm water should still be added to take off the chill."

Another well-known authority, Dr. Barker, speaking on the same subject, says: "It is the refinement of torture to sluice or plunge a highly sensitive child into cold water, regardless of its screams and struggles to escape from so palpable a punishment. Thousands of frail little beings have thus suffered, drooped, and died, who, had they received but the same amount of care and comfort instinctively bestowed on their young by the birds of the air and the beasts of the field, would have lived on to blooming health. Still, in the effort to avoid this extreme, the opposite cockering and coddling must be just as carefully guarded against.

"In immersing infants and young children, water of a higher temperature than feels cool to the hand of the nurse should always be employed during winter, when the power of regaining a normal degree of bodily heat is less than at other seasons. With the increase of age and strength in childhood, the temperature of the water may be gradually diminished (though no anxiety need be felt for using it quite cold) until the baby is no longer an infant. During the summer it is generally warm enough without additional heat; the best criterion of this, however, is its use being promptly followed by evidence of comfort. For the morning bath, the water should be placed in the nursery over night, by which its temperature will be slightly increased. In the winter this should be raised to about 85° or 90° by adding hot water; a common thermometer for regulating it being a nursery requisite, the hand or arm being unreliable as a test of heat."

It should not be forgotten that when hot water has to be used, the cold water should be put into the bath first, and hot water added afterwards. Unless this is done, the bath itself may be made hot, and the heat may hurt the baby's skin. Especially is caution on this point required when the bath is of tin, because tin retains heat longer than does earthenware.

When, however, a thermometer is not available for testing the heat of water to be used for baby's bath, the upper part of the arm above the elbow should be employed rather than the hand. The

hand of a grown-up person is much less sensitive than the delicate skin of a baby, and, therefore, the information it gives is not to be trusted.

Washing an Infant.—There is a right and a wrong way of setting about even such a simple business as washing a baby. With the wrong way we need not concern ourselves; but the following is the right way:—Let the mother or nurse put on a long wide flannel apron, and have ready a large bowl (placed, in cold weather, in front of, but not too near, a cheerful fire, and out of a draught); an abundance of lukewarm water, a low chair, a warm dry soft towel, a little common soap, and a good soft clean sponge. A sponge is much the best thing which can be chosen, because it goes into all the folds and crevices so thoroughly, and it cleanses the skin more effectually than flannel. At the same time, it is important that a sponge should be kept perfectly clean, and not permitted to become slimy (as it soon will do if not looked after); and it should be reserved exclusively for baby's use. Mrs. Baines, a lady who has written much and well on the management of children, recommends that every child should have his own sponge, with a particular mark on it to distinguish it from the rest. This lady considers the promiscuous use of the same sponge to be a frequent cause of sore eyes amongst children.

One of the best of low chairs for washing children is made by cutting a piece, six or eight inches in length, from each of the legs of an ordinary cane-bottomed bedroom chair. It is most uncomfortable and inconvenient to attempt to wash and dry a baby properly in a seat that is too high.

Some mothers, instead of having a low seat, prefer to have a bath on a stand, and baths with stands are sold for nursery use. It is immaterial which method is adopted, so long as the bath is so placed that the nurse has full command of the position, and can lift the infant in and out of the water with perfect ease.

When all is ready, let the mother seat herself on the right-hand side of the fireplace, so that her own right hand and the baby's feet, as it lies on her lap, shall be near the fire. An infant's head should never be turned to the fire, be it remembered. Wash the head first, then the rest of the body, and pay particular attention to the folds in the neck, the groin, the armpits, and all parts where perspiration is likely to accumulate. When clean all over, put the child very gently quite into the water up to the neck. Talk cheerfully to him while doing this, and be careful to hold him in the water firmly with both hands (one hand under the lower part of the back, and the other hand under the head), so that he may feel he is being supported. Some nurses will plunge a young

child into water without being careful to let him feel supported thus, and the consequence is that the child is terrified. Even a basinful of water is a good deal to a tiny baby, and through dread a child may get a distaste for the bath. Yet it is most desirable that the child should take pleasure in his bath, and that he should acquire a liking for the use of water. The taste thus formed may lead to a habit which will remain with him through life.

A baby should not be allowed to remain too long in the bath. Two or three minutes are quite long enough. He should have time to splash about a little, and to have the full sponge squeezed all over his body a few times, and especially over his bowels and the parts adjacent. He should then be lifted out, wrapped in the towel, and gently, not roughly, rubbed until he is perfectly dry. When drying him, particular attention should be paid to the ears, the nostrils, the folds of the neck and the groin, while all parts which are likely to become chafed should be powdered. If exposure and draughts can be avoided, it is a good thing for the infant, when thoroughly dry, to lie on the mother's lap for a minute or two, while she gently, but briskly, rubs his spine, limbs, chest, and bowels with her open palm. Friction of this kind helps to strengthen the child and to promote the circulation of the blood; its administration also affords the mother an opportunity of discovering mischief, should anything of the kind occur. If any portion of the skin looks red or sore in any way, it should be washed and made perfectly clean with plenty of common soap and water; dabbed with a soft cloth till quite dry; then powdered liberally with a puff brush, dipped in prepared fuller's earth. If there is no redness or soreness, he may be dusted with simple violet powder, which may be bought of any respectable chemist. It is, however, little likely that excoriations will occur if a baby be kept perfectly clean and dry all day long. As Dr. Chavasse says:—"Remember, excoriations are generally owing to the want of water—to the want of an abundance of water. Infants who are well soused and well swilled every morning with water, seldom suffer from excoriations, or from any other of the numerous skin diseases. Cleanliness is the grand preventive of, and the best remedy for, excoriations. *Cleanliness is one of the grand incentives to health*, and, therefore, cannot be too strongly insisted upon. If more attention were paid to this subject, children would be more exempt from chafings, eruptions, and consequent suffering, than they are at present."

It has been said that the ears of a child should be dried thoroughly after washing. Soreness and irritation very frequently begin behind the ear; and when it once establishes itself, it is most difficult to

cure. Moisture left inside the ear, also, frequently leads to the formation of an abscess, a most painful complaint.

A baby's bath is most refreshing when given before food; or, if this is not possible, at least an hour should elapse after a meal before the operation is gone through. If a baby were tubbed immediately after taking food, he would be very likely to vomit, and have his digestion upset.

Many mothers are much exercised as to whether or not their babies should be bathed twice a day, night and morning, or once a day only. We have medical authority for the assertion that if babies are thoroughly washed and bathed in the morning, and if their bodies are sponged when necessary during the day—that is, after the bowels have been relieved—it will be sufficient if they are only partially washed in the evening. After the second month, and when children are delicate, the addition of a handful of salt to the water in which he is bathed in the morning will help to strengthen a child.

Cleanly Habits.—It must not be forgotten that the cleanliness of an infant depends very much on the formation of cleanly habits; and it is astonishing how much may be done in this direction by the help of a little trouble and painstaking. "A dirty child is the nurse's disgrace." This is true, but it is equally true that a clean child is an honour to a nurse. From the earliest days the nurse should make a practice of holding the child out every two hours, and after sleep. If this is done it will very soon become restless, and so give intelligent warning of its necessities, and this sign should never be neglected. A napkin also should never be put on a second time after it has been used, until it has been washed and aired. By the adoption of these simple means a child can easily be trained, so that napkins can be dispensed with after the first six months, and this is a great relief. After a napkin has been taken off, a baby should invariably be sponged with tepid water, and be very carefully dried. It is astonishing how soon a baby's tender skin becomes chafed if it is not dried thoroughly when necessary; yet a difficulty of this sort is much more easily prevented than cured. A napkin should also be changed at once after it has been used. Careless nurses will often leave the napkin on for an hour or more after it is wet, and feel no uneasiness, especially if a pile is worn. The practice is, however, very uncleanly and very harmful. It makes the skin hot and sore, and it does away with all hope of making a baby regular in its habits.

Care of the Hair and Scalp.—The condition of the hair and of the skin of the head is

a very important detail in connection with the cleanliness of an infant. When a child is healthy his head will be kept clean with the daily bath, and with gentle brushing with a clean soft brush. When the hair is grown, so that it is no longer desirable to wet the head every day, it should still be cleansed once or twice a week with a little warm water, and a small quantity of borax applied by means of a sponge. It is a great mistake to let a little child's hair grow very long. Long hair is very heating, and health requires that a child's head should be kept cool. Oil, pomade, and preparations of various kinds are also quite unnecessary, and a child's hair will grow better and look prettier without them. The surest way of keeping a child's hair pretty is to keep it clean by the regular use of a perfectly clean brush.

Washes for the Hair.—Should scurf form about the roots it may usually be got rid of by using once a week a wash made of a teaspoonful of pyroligneous acid of the ordinary strength mixed with a teacupful of water, applied by means of a sponge. This preparation was recommended by a member of the Lady's Sanitary Association. Another most excellent wash for the hair, either of a child or an adult, is made by using the yolk of an egg with warm water instead of soap. The yolk of an egg should be freed entirely from white, and stirred till a froth is obtained, then mixed with water to make a lather. The hair should be rinsed thoroughly after it has been washed with the egg.

Teething.—A healthy, well-managed child usually cuts his teeth without much difficulty. He "dribbles" more than usual; he may be somewhat hot and feverish, or have a slight relaxation of the bowels; but the disturbance lasts only a few days, and soon passes off when the pretty white line makes its appearance on the gum, and the tooth is through. The only thing a mother has to do under these circumstances is to have patience, and to exercise common sense. She must not feed the baby more, but, if anything, rather less than usual. There is danger of erring in this direction, because the child, feeling his mouth hot and painful, seems to want food. Cold water to drink, however, will be very acceptable, and this may be given freely.

Slight relaxation of the bowels during teething is a good sign rather than otherwise. It is nature's effort to throw off the irritation, and unless it becomes too severe, need cause no uneasiness. If, however, it is of long continuance, or approaches diarrhoea, a doctor should immediately be consulted. This step should be taken indeed if in any way the child cuts his teeth badly—that is, if he has diar-

rhoea, or if he is convulsed, or has a bad cough. Young mothers should realise that, to use the words of Dr. Chavasse, "Dentition is the most important period of a child's life, and is the exciting cause of many infantile diseases, affecting almost every organ of the body—the brain, occasioning convulsions, water on the brain, &c.; the lungs, producing inflammation, cough, &c.; the stomach, exciting sickness, flatulence, acidity; the bowels, inducing griping, costiveness, or purging; the skin, causing eruptions. Therefore during this period a baby requires constant and careful watching. When we consider how the teeth elongate and enlarge in the infant's gums, pressing on the nerves and on the surrounding parts, and thus how frequently they produce pain, irritation, and inflammation; when we further contemplate what sympathy there is in the nervous system, and how susceptible the young are to pain, no surprise can be felt at the immense disturbance, and the consequent suffering and danger frequently experienced by children while cutting their first teeth."

Alarming symptoms being absent, there are many simple means which a mother can adopt to help her baby through the troubles of teething. She can be sure that his bowels are open, and administer a mild safe aperient if they are not; she can gently rub his gums with her finger, when they are not too sore, and give him a soft india-rubber ring or a piece of bridle leather to bite. Soft pressure of this kind makes the teeth come through more quickly and easily; and the fact is so well known, that many mothers, thinking that the great object is to let the child bite something, furnish him with a ring of bone or ivory, and thus actually do harm instead of good, for the hard unyielding substance hardens the gums, and causes the teeth to come through with difficulty. Last, but perhaps more important than all, the mother can arrange to give her infant as much fresh air as possible, by sending him out of doors as much as she can. As an authority on this subject says, "The young of animals seldom suffer from cutting their teeth, and what is the reason? Because they live in the open air, and take plenty of exercise; while children are frequently cooped up in close rooms, and are not allowed the free use of their limbs. The value of fresh air is well exemplified in one of the Registrar-General's Reports. It is there stated that during one year, in 1,000,000 deaths from all diseases, 616 occur in the town from teething, while 120 only occur in the country from the same cause."

Such are the principal points involved in the management of a baby; in all which it would be easy for an inexperienced mother to make mistakes. What the treatment of a child should be, when infancy is past, must be dealt with separately.

HOW TO MAKE DISHES LOOK NICE.

It has been stated that our five senses may be regarded as sentinels which keep guard over the body, and the health and happiness of every individual are, to a very great extent, dependent on the state of wholesome discipline in which these sentinels are kept. Housekeepers would do well to bear in mind, and also to impress upon their cooks, the fact that four out of the five senses have to be thought of in the preparation of our daily food. The sense of smell takes the lead. A leg of mutton might be sent to table in such a state that the sense of smell, which may be regarded as the outpost of our sentinels, would forbid at once our proceeding any further with the meal. Even a dog has an instinct implanted in him which causes him to smell his food before he eats it. Next to the sense of smell comes the sense of sight. Does our food *look nice*? Then follow the senses of taste and touch. For instance, a little piece of sweetbread may smell deliciously, look beautiful, taste perfect; but the last remaining sense, that of touch, may be irritated by finding in one's mouth a piece of skin, which causes a sensation like a lurch on board ship; while to put it out of the mouth neatly and unperceived, requires the assurance of age and the dexterity of a conjurer. The sense of hearing alone appears the only one that is ungratified; which seems to prove that a first-class dinner, eaten while listening to beautiful music, must be the highest form of animal enjoyment for which man has been created.

It is very essential, then, to the proper enjoyment of our food that dishes and their surroundings should "look nice;" and this has been the case ever since that unfortunate day when our Mother Eve first noticed that the apple was goodly to look at. Let us for one moment contrast a well-laid dinner-table, say, for four persons, as we are accustomed to see it in a West End London club, with the sort of dinner certain of us may have had to endure at some third-rate place or other. At the club the cloth is snowy-white; and in the centre a dark green fern helps to shed a subdued light, far more pleasing to the eye than scarlet geraniums or flowers too vividly bright to be suggestive of perfect repose. Four well-folded napkins are placed round; and the silver spoons and forks are as bright as if they had just left the silvered tissue-paper of the jeweller. The knives match so far as their blades are concerned; while the snow-white ivory handles are free from dust and grit. The wine-glasses are *thin*, and shaped like Grecian vases; while one, which is tinted green, reminds us of the good Rhine wine that will form a portion of the feast. The well-bred waiters tread softly on the Turkey carpet, and speak in subdued

whispers; while not even the rattle of a spoon or fork on the sideboard is calculated to offend the only sense they cannot gratify. Contrast this with the other. A dirty table-cloth, in which can be detected the rim caused by the bottom of a tumbler that has contained stout, with a smear or two of mustard and splashes of gravy. The tumblers are thick and smeary. The knives look dull, and the handles gone into mourning; and if we were to take the pewter-looking fork—only a shade removed above the still humbler three-pronged steel fork—and wipe it upon the edge of the table-cloth, it would leave three black marks behind. The salt-cellar contains moist lumps; the mustard-pot is a light yellow at the bottom, and brown at the top. But we must stop, and no longer harrow the reader's feelings by going into a list of the horrors that will probably ensue when the dishes arrive.

If we study appearances, the first point we should consider is the light; and here many housekeepers break down who ought to know better. Unless the dining-room is lofty, gas is by no means a suitable illuminator for a well-served dinner. It makes the room very hot, is unpleasant to the eye, and fails to throw its light on the table. The last little dinner-table we described would probably be illuminated by a paraffin lamp, which Mary Ann, as usual, had forgotten to wipe outside after trimming. The first table would be sure to be lit up by a couple of wax candles, in small plated or silver candle-sticks; and even this subdued light would be kept from the eye by a shade. The upper portion of the room itself would be lit either by a sunlight in the centre of the ceiling; or, at any rate, by gas-lights sufficiently lofty not to be offensive. And if you wish to make a dinner-table look really nice, it is well worth trying the effect of a few candles guarded with shades. A lamp, also shaded, can be placed upon the side-board; while, if the room contains gas, it can be turned down very low. The effect of this is, of course, to throw a strong light upon the table and nowhere else; thus greatly enhancing the appearance of the cut glass and bright silver with which we presume the table is laid. The green fern may have in addition, if the table be long, a few satellites in the way of single flowers, such as moss-roses or violets, mixed with lilies of the valley and surrounded with maidenhair fern, placed in little glasses sold for the purpose. These glasses are very cheap—not more than sixpence each—and where there is a garden flowers cost nothing; and yet what an air of comfort, and even luxury, they impart to a table if only they are arranged with taste! This subject, however, has been treated elsewhere. If the time be summer,

a block of ice can be utilised to ornament the centre of the table, instead of the fern; and if the block of ice be largo and hollow, as we once saw one, with a couple of little coloured-glass lamps placed in the interior, red and green—similar to those that hung on the trees at the Italian Exhibition—this block of ice is converted into a gigantic diamond, flashing forth all the colours of the rainbow, and surpassing in beauty even the most vivid recollections of one's childhood when reading for the first time of the famous cave of Aladdin.

Breakfast.—It is time, however, that we commenced to give a few hints with regard to the appearance of the dishes themselves, rather than their surroundings. Perhaps there is no meal in the day in which appearances are more important than breakfast. Appetites vary immensely, and without wishing to infringe on the province of the family doctor, there is no harm in saying that, in the opinion of most clever men who have made the subject of health a study, there is nothing more important for our bodily well-being than to be able every morning to rise early and eat a good breakfast at a regular fixed hour. There are some persons so happily constituted that, never mind what hour they went to bed, or how ever "pleasantly" they spent the previous evening, they can rise the next morning and enjoy a tough beef-steak with a wolfish appetite. There are others so unhappily constituted that, never mind how early they retire to rest, or how careful they may be in regard to their health, they nevertheless come downstairs in the morning apparently without an appetite, and who, had they a feast set before them worthy of Lucullus, would stick to their cup of tea and a few thin slices of dry toast. Intermediate between these two stages of appetite is the more common one, in which people feel they require what is called "tempting." Even the working classes, who regard breakfast in the sole light, as a rule, of a pint of tea and "so many slices," will sometimes get into that state which they describe as "I feel as if I want a relish." Extraordinary to relate, the relish in question, which often promotes their "jaded appetite," is a stale egg, or doubtful sausage, in a coffee-house. In respectable society the "relish" will greatly depend upon appearances. For instance, a few thin slices of gallantine of fowl, in which may be seen the black spots denoting truffle, and the green spots denoting pistachio kernels. A few slices like this, laid neatly on a silver dish, and ornamented with some bright aspic jelly and a little dark green fresh parsley, will often tempt a delicate appetite which would turn from coarser food, or even a wholesome joint of cold roast beef. A good deal, too, depends upon the

general appearance of the breakfast-table. A piece of good fresh butter can be placed just as it is on a smeary dish, or one with a few thumb-marks round the edge; or in a cut-glass butter-dish filled with clean water, in which float two or three pieces of ice, and covered with a lid, on which reposes, in effigy, a silver cow, denoting, let us hope, that the butter is made from real cream. Of course, we suppose things are *fresh*. It is painful sometimes to think, when eating eggs, that every egg was *once* new laid; and melancholy to contemplate the mismanagement that must have taken place to cause the delay and make it what it is.

Another point about the table. Even if you have a beard and moustache, though a dinner-napkin is considered essential when you "dine" off even cold beef, it is, by some strange aberration of the intellect on the part of housekeepers, rarely considered necessary after eating eggs and bacon, which is an article of food at all times requiring some address in putting in the mouth, to say nothing of the coffee in washing it down. This question of napkins at breakfast is one well worthy of consideration. Probably there are no articles of food which render the services of a serviette more indispensable than eggs and bacon and coffee, and yet they are very often conspicuous by their absence at the breakfast-tables of persons generally moving in decent society. Curry is another dish which asks for a napkin, and curry is now often served at breakfast. On board the P. & O. boats, those famous ships noted for the excellence of their good cheer, they finish each meal—namely, breakfast, luncheon, and dinner—with a course of curry, and the number of clean napkins required during even one week is almost fabulous.

Breakfast Dishes.—We will glance hastily at a few of the common dishes supplied at breakfast, and have a word or two to say on their appearances. First of all take toast. Sometimes a slice of toast is sent to table resembling the face of a young lady who has not quite made up her mind whether she will marry the sweep or the baker—one part is perfectly black, and the other white. Toast requires care, and a good fire; and when finished, if one part is burnt, the fault is easily remedied by simply being scraped with a knife. Toast, properly, should be the same colour all over, like a rusk, and the outside crust should be cut off, as in a sandwich.

We need not here enter into any detailed account of the various things that are suitable for breakfast, as a chapter has been devoted to the subject of breakfast, luncheon, and supper dishes; but when hot dishes are sent to table for breakfast, it would repay you to serve them, if possible, in a silver-

plated dish. A few filleted anchovies, mixed with a hard-boiled egg cut in slices, and sprinkled lightly with cayenne pepper, forms an excellent appetiser; and very often some of this on a piece of dried toast, with a little butter, will enable a person to go on with something more substantial. Here, again, we must bear in mind the importance of making dishes *look nice*, and these slices of egg, in which the yellow centre is surrounded by a white rim, across which the anchovies should be laid, like the trellis-work of a cottage window, should repose in the centre of a nest of freshly-picked parsley.

We will now run briefly through the course of dishes usually served at a dinner, and make a few remarks on that part of them which appeals to the eye rather than the palate.

Soups.—First the soup. This must be bright, and really good bright soup is not so common as it should be. If the soup contains any kind of Italian paste, such as macaroni, vermicelli, or of Italian paste, properly so called, composed of ornamental wafers, do bear in mind that these must be *boiled separately* in some water, otherwise they will make the soup cloudy. If the soup contains any kind of vegetables, let them be bright, and contrast in colour. In soups the colours that contrast best are red, green, and white. The red in soup is almost invariably carrot; and cooks too often, regardless of appearances, cut up the carrots, for the purpose of placing in the soup, just as they are. Now pause a minute and think how this can be improved. A good deal of carrot is required for making stock, and when thoroughly boiled is thrown away with the refuse of the stock-pot. When, therefore, you know that you are going to have soup, in which carrot will have to make its appearance, bear in mind the fact that every carrot has two colours. The outer rim is deep red, and the centre yellow. Cut up the carrots therefore, and keep only the red part to put in the soup, and reserve the inferior yellow part (which is equally good in flavour) for the stock-pot. The stock is just as good, and the soup greatly improved in appearance. This idea applies equally when making carrot jam or purée of carrot—more often called *crécy*.

The green colour can be obtained by adding French beans or green peas. The white is of course turnip. To insure the green of the beans and peas being a bright green, they must be thrown into boiling water at starting—otherwise they will turn a brownish colour.

In regard to thick soups, the colour should be a decided brown, not like pale brown paper or gruel, but a darker brown, more resembling chocolate. This colour can only be obtained by using properly-made *roux*, directions for which were plainly given

in chapters devoted to soups. Another thing to be avoided is grit at the bottom of the plate. Pepper is necessary to flavour soups, but this pepper will settle at the bottom. Now, if the soup be warmed up in an enamelled saucepan, and you pour it steadily into the soup tureen, you will observe that the last tea-cupful or half tea-cupful is thick. Keep this back for some other purpose. We may illustrate what is meant by comparing it to pouring out a bottle of Bass's pale ale. Suppose we have a pint bottle of pale ale and two tumblers. We can with care pour out two perfectly bright glassfuls, by leaving in the bottle about a wine-glassful, which should not be poured out at all. A careless servant will often pour out two cloudy glasses, forgetful of the sediment.

In white soups it is somewhat difficult to obtain a pure white colour. A very little cream, however, ensures this desideratum. Now, white soups require some kind of toasted or fried bread to be handed round with them; but how very superior in appearance is fried bread to toast! This, again, is a question of appearances.

Some soups are green—the most common being green-pea soup. For this purpose you must have a vegetable colouring made from spinach. Now, spinach is not always easily obtainable, but your store-closet can always contain a small bottle of vegetable colouring known as Breton's Vegetable Colouring. You can have carmine, red, green, and yellow; and as these bottles only cost ninepence or tenpence each, you will find they will save you an enormous amount of trouble, as a teaspoonful of the green colouring, which is perfectly harmless, will convert a whole soup-tureen of green-pea soup from a dirty yellowish-green to a perfectly bright green like fresh paint. The difference in the appearance is, in truth, wonderful. This same spinach green can also be used in making sugar ornaments, similar to those of old-fashioned twelfth-cakes, which used to be the horror of mothers years ago, who laboured under the not altogether erroneous impression that these ornaments owed their brightness to an admixture of some preparation of arsenic.

In the case of soups known as *bisque*, the red colour is only obtainable by using a sufficiency of properly-made lobster butter, which we have already described as being made from lobster coral.

Fish.—We next come to the subject of fish, and a book might be written on the various ways of sending ornamental dishes of fish to the table. First, white flat fish—here we have to depend upon lobster coral, chopped parsley, and cut lemon. A slice of lemon will make a pretty garnish of fish. Cut a thin slice of lemon (*a*) in half, and then cut each half (*b*) through the middle of the yellow rim, opening

the two pieces as at *c*, which will be held together by the white piece in the centre. (Fig. 1.) A little piece of cut lemon is sometimes improved by placing

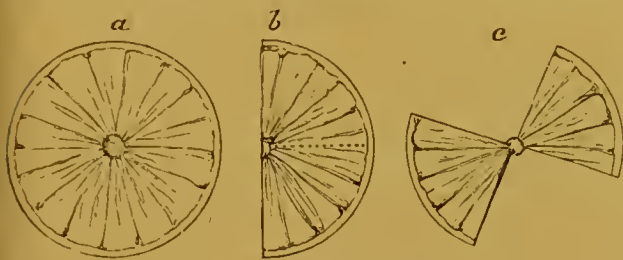


Fig. 1.—SLICE OF LEMON.

a small speck of green parsley over the white centre, alternately with a piece of the red coral of the lobster placed over the centre of another piece.

Fried fish is best ornamented with fried parsley. A piece of ornamental paper should be placed at the bottom of the dish. These papers can be bought ready-made with an ornamental crimp border, but they are easily made at home in the following manner:—Thick white cartridge-paper is best, and can be cut to fit the dish by folding the paper into four, (*B*) placing the centre of the paper when open—i.e., the corner when folded—in the centre of the dish *a*. Then press round the inner rim of the dish so as to mark the paper *B* the right size. Next cut this

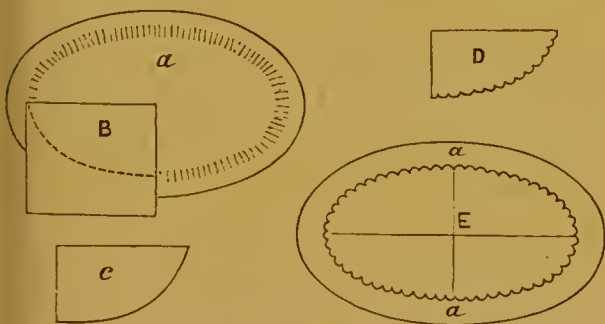


Fig. 2.—FISH PAPER.

neatly round without unfolding the paper, as at *c*; then cut a little crimped edge (*D*). When you open the paper, each quarter will be exactly the same size, and the paper is complete as at *E*. (Fig. 2.)

The prettiest ornament of all for fish, and especially for boiled fish, is small red cray-fish. Now these are very cheap, and suppose you have a nice turbot or brill, the flat white surface of which has been sprinkled with a few red and green specks: if you surround a turbot with some bright green parsley and cut lemon, what an improvement is it if you place a little bright red cray-fish in between each heap of parsley! Six cray-fish would be ample for a good-sized fish, and the ornament is rendered doubly appropriate if lobster sauce is served with the fish.

Another variation of the colours red and green can be made by using pickled chillies and gherkins. Suppose we have a dish of fish composed of filleted soles, boiled and served with white béchamel sauce. The fillets of soles are rolled, tied with a piece of white cotton, and boiled. They are then placed upright in, say, a small silver dish, and the cotton removed. The white sauce is now poured gently in the dish, and by many persons would be served just as it is. Suppose, however, we have twelve little fillets, which stand up about one inch and a half high. With a small knife cut out of the skin of a red chilli or red capsicum six little pieces about as big as a threepenny-piece, and six similar-sized pieces can be cut out of a pickled gherkin, which is sure to be found in every bottle of mixed pickles. Now place these little red and green ornaments on the top of each little rolled fillet of sole, and observe the difference in the appearance of the dish. A few little red and green specks, much smaller, also consisting of chilli skin or gherkin, can be sprinkled at random on the white sauce, which constitutes the base of the dish; only take care that you sprinkle very few. You don't want a red and green speckled dish, but a white dish, with just a dash of colour to relieve the eye.

Fish can also be ornamented with fried oysters or oysters dipped in butter. A very cheap and delicious ornament is made from mussels, which can be dipped in stiff batter and fried. Button mushrooms can also be used for ornamental purposes with fish, and are greatly improved in appearance by being first dipped in some bright glaze. These ornaments are especially useful in dishes like *sole au gratin* and *sole à la Normandie*.

Truffles are always useful for ornamental purposes; and remember, a little piece will go a very long way. For instance, suppose you have a little fish forcemeat, and you roll it into the shape of a marrow-bone, about two inches long and an inch and a half in diameter. Now cut out a slice of truffle, very thin, the size of a shilling, pressing it on the top of this little imitation marrow-bone, which is supposed to stand up on one end. The little black centre makes the ornament really look like a marrow-bone; and one of these placed at each end of a dish has a very pretty effect.

A very pretty way of using the truffle in ornamenting fish is by using a few fillets of soles to ornament a larger fish. For instance, suppose we have a very small salmon boiled whole, and we take as well a small sole about eight inches long, which will make four nice fillets about six inches long, which fillets will be pointed at the edge and rather more than an inch broad in the middle. We now cut out of a small truffle with a sharp knife a number of little black pieces of a crescent shape, and place

these on the fillet of sole crossways, about half an inch apart. (Fig. 3.) Of course, the biggest pieces of truffle must be reserved for the middle portion of



Fig. 3.—FILLET OF SOLE.

the fillet, which will be broader than the ends. This white filleted sole must be boiled first in a little stew-pan, then dipped in some clear glaze, and the pieces of very thin truffle stuck on, when the four fillets can be laid across the large fish, as shown in Fig. 4. The result will well repay the trouble taken; but we must leave it to the reader's own ingenuity to finish off the dish with imitation marrow-bones, bright green parsley, and red cray-fish.



Fig. 4.—SALMON GARNISHED WITH FILLETS.

Entrées and Joints.—We next come to *entrées* and joints. These are generally served in the order named; it is an open question as to whether they would not be better the other way: indeed, in many first-class houses the joint or remove precedes the *entrée*; and in that famous restaurant in New York known as Delmonico's, where the cooking is generally considered to be superior to even the best establishments of Paris and London, the *entrées* always follow the more substantial food. England is famous for its joints; and in this part of the dinner this country stands unrivalled. How many are there who, after a foreign tour, long for the roast beef of old England, in the shape of the huge ribs of beef rarely seen to perfection except in really first-class English hotels. But this joint may be made to vary very considerably in appearances. In a large hotel the joint is placed on a huge metal dish, with a well for the gravy; the dish being often kept hot by a spirit-lamp placed beneath it. In most private houses the joint is placed on the table, and consequently some pains should be taken to render it as attractive-looking as possible. The dish on which it is placed, it is needless to say, should be clean; but very often we find the joint on the table with the sides of the dish discoloured and greasy. This is generally due to the fact that the cook pours the whole of the gravy into the dish, and the man, in

carrying it upstairs, is unable to avoid letting some of the gravy swim over the edge. Indeed, it is not an uncommon thing to have an overflow of gravy on the kitchen stairs; and a greasy puddle of this nature, when men are carrying large trays of glasses, might end in a disaster too awful to contemplate. In sending a joint to table, if it be a roast one, take care that the outside is nicely browned, the colour being that of a rich dark mahogany; while a joint is none the worse if some of the knobby places are a little black. What a difference between a nicely-roasted leg of mutton properly done, the outside of which is a rich crisp brown, and one that is met with sometimes in lodging-houses, which comes up a light pale brown colour, the landlady apologising by saying "the oven wasn't brisk," owing to the wind being in a certain quarter! If by any chance the joint is really cooked, and is cooked brown in patches or streaks, the *contretemps* can be easily overcome with a red-hot shovel. It is such a pity that English cooks will not try this red-hot shovel, or salamander, when they get into difficulties.

A large piece of beef can always be ornamented with some nice freshly-scraped horse-radish; and this, again, can be improved in appearance by having a little piece of parsley set in the centre of each white bunch. A good bunch should be placed on the top of the joint, about the size of a man's fist; and one or two bunches can repose on the edge of the dish, but not in the gravy. Half the gravy should be kept back on ordinary occasions, and be sent up about ten minutes after the joint is served. When any one wants a second help, the fresh, hot, almost boiling gravy can be poured over the joint; and a properly instructed servant would have a clean *hot plate* ready for the second help, and not make the dirty and cold one do again, for the sake of saving a little trouble to a lazy kitchen-maid.

A leg of mutton can be ornamented by having a paper frill tied round the knuckle. For some unknown reason, housekeepers think that only haunches deserve this honour. It would be interesting to know the reason. We have already called attention to the proper manner of serving that popular joint known as "a leg of mutton and the usual trimmings." The turnips and carrots can be placed round the dish alternately. The turnips can be cut in half and scooped out like cups; and these cups filled with the red part of the carrot, chopped into little pieces, alternately with other cups filled with green peas.

There are dishes which, we must honestly confess, puzzle the best artists. Perhaps the worst is a huge boiled leg of pork. To mould pease-pudding into pretty shapes would puzzle a Philidor.

When the joint consists of poultry, such as roast

turkey and roast fowl, our task is easy. All that is necessary is to have the outside of the fowl or turkey *brown*, which can easily be done, thanks to the shovel, and then a paste brush and some glaze. We do not like to use the same similitude over and over again, but must repeat once more that the difference is simply that between the piece of plain mahogany before the French polish and after the French polish.

A very pretty addition to joints consisting of poultry are imitation flowers, made from turnips or



Fig. 5.—VEGETABLE SCOOPS.

other vegetables. These are cut out either with vegetable scoops, such as Fig. 5; or cutters like Fig. 5 can be obtained of all possible shapes.

A good cook can cut a flower out of a turnip, which can be made so like a camellia that you cannot tell the difference. When the flower is cut, the edges can be just touched with a brush dipped in cochineal, which gives that pink appearance that makes the flower appear so natural. A little piece of wood is

run down the centre of the flower, pointed—the stick of a lucifer match is always handy—and a couple of bay-leaves can be attached to show it off. A deep red flower can be cut out of a beetroot. Use a white flower to ornament a roast joint,

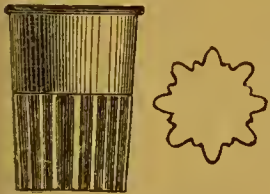


Fig. 6.—CUTTER.

and a red flower and two green leaves to ornament a white joint. A boiled turkey masked over with some thick snow-white sauce, made with cream, is greatly set off by a flower of a beetroot red and two dark bay-leaves; only do be careful of spoiling the effect by clumsily getting any of the white sauce on the green leaf, which utterly destroys it, and presents a smearsy, clumsy look; but it often happens, for all that. When you ornament a boiled turkey or fowl with a flower cut from a beetroot, you can chop up a very little parsley and a very little beetroot, and just sprinkle the top of the breast slightly. Remember, a very little; to make the whole bird speckled is ridiculous; but a little sprinkle at the top relieves the eye. This is a matter of taste which some clumsy, vulgar women will never learn.

Turkeys are sometimes ornamented with a *ragout*. The stock dish at a dinner party is turkey *à la*

chipolata. This, as you all know, consists of little heaps of sausage-meat rolled into balls, and placed in heaps alternately with other heaps, consisting of button mushrooms, truffles, cocks'-combs, small pieces of sweetbread, over which is poured some rich brown gravy, for a roast turkey; or white sauce for a boiled turkey. Game is generally served plain, with the exception of a little glaze over the breast; with the exception of pheasants, which are usually decorated with a bunch of the long feathers out of the tail. Small joints of boiled mutton can be ornamented by having some thick caper sauce poured over them. The capers must be chopped; and the sauce poured over the top of the joint should have an extra quantity of capers, so as to make them a respectable uniform green. Parsley and butter sauce should be made much greener than is usually met with in private houses.

The methods of ornamenting *entrées* are almost infinite. Let us take the commonest of all—mutton cutlets. Cutlets should all be the same size, and the bone of each cutlet should be ornamented with a little tiny finely-cut paper frill. The centre of the dish should be filled up with some kind of *purée*, the simplest of which is mashed potatoes. Now here, if the mashed potatoes are made firm and lightly browned on the top, and the cutlets arranged neatly and uniformly around, with the frill uppermost, you get a plain, inexpensive, but pretty dish. The cutlets must also be uniform in colour—namely, a rich, bright golden-brown. The *purée* in the centre can be made from a variety of dishes. You can have a *purée* of Brussels sprouts; and a few little bright green Brussels sprouts can be reserved whole and stuck on the top of the *purée* in knobs, like the knobs on a mould of jelly. This assists appearances. A delicious but expensive *purée* can be made with asparagus. Here, again, a dozen or more sprigs of asparagus can be preserved whole and stuck upright in the *purée*, which then resembles an asparagus bed in the garden. This is very pretty. A first-class *purée* can be made from artichokes: not Jerusalem, which are white, but from the bottoms of French artichokes. If the *entrée* is a fairly good-sized one, reserve what we may call a baby artichoke with all the leaves on it, and stick this in the centre of the *purée*. We can also have a *purée* of mushrooms. Here, again, have a few button mushrooms, boiled whole and dipped in glaze, stuck upright in the *purée* as if they were growing; of course, placing the largest mushroom in the centre.

In a dish like *tête de veau en tortue*, the calf's ear, brightly glazed, should stick up in the middle. With a sharp knife the ear should be cut round from the calf's head, with a broad base to ensure its standing upright. The remaining pieces of calf's

head can be placed round, and the fried eggs disposed round the edge of the dish, alternately with the mushrooms, and, if possible, slices of the black truffle. These fried eggs must not look like the ordinary eggs served for breakfast, but should be fried brown on both sides—a light brown colour—and should be carefully trimmed: in fact, they should resemble light brown oval balls.

Many pretty dishes can be made by serving some rich *ragout* in a vegetable border. Directions have already been given for making rice borders. A very pretty border indeed can be made from potatoes as follows:—Bake eight large potatoes in their skins, and when done, squeeze out the insides, and rub them through a wire sieve; mix them with three yolks of eggs, and roll the whole mass into a large cannon-ball; place it on a baking-dish, and flatten the cannon-ball, so that it makes a large oval shape, something like a Dutch cheese—not round, but a flat one. Now flute the side all round the edge outside by pressing it with a cheese-scoop. If you haven't got a cheese-scoop, cut an imitation one out of a raw

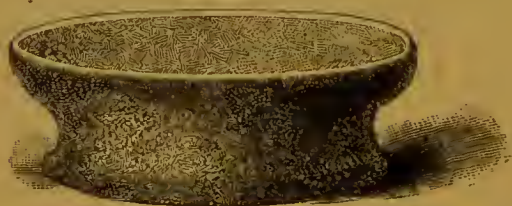


Fig. 7.—CROUSTADE.

carrot. This will ensure having all the fluted projections the same size. Brush the outside lightly with some well beaten-up yolk of egg, and place the whole mass in the oven till the outside is baked all over a nice bright yellow, like the outside of a pie that has been well washed over with the yolk of egg. When you have attained the requisite colour, take it out of the oven and scoop out the whole of the inside, leaving the border about an inch thick all round, smoothing the inside of the potato with the back of a spoon. You can now fill the inside with anything you like. When filled with even plain mince, the dish looks very pretty, and half a teaspoonful of coarsely-chopped parsley can be thrown on to the top of the mince just before serving. A potato border of this description deserves a better inside than plain mince.

A very pretty *entrée* indeed can be made by forming what is known among French cooks as ornamental *croustade*. These are made out of an ordinary loaf of close bread. You must pick a loaf which, when cut, has no big holes in it. Take a loaf that has been baked in a tin; cut off the outside crust, and with a sharp knife cut it into the

shape shown in Fig 7. Now have a large vessel, containing smoking hot fat, and fry the whole a bright golden-brown. When it is nearly cold, trim the bottom, so that it stands firm, and then scoop out the inside carefully, without breaking the crisp outside. Put it back in the oven to dry, and then smear the inside with a layer of some kind of firm forcemeat. This is simply to prevent the juice or gravy of anything afterwards put in it from soaking into the *croustade*. This can now be filled with some rich kind of *ragout*, only avoid anything that has any kind of *thin* gravy. Little collops of lambs' sweetbread could be served in this, with, say, a few green peas piled up in the centre with the white bread like a pyramid.

Small cray-fish are often used for ornamenting *entrées*, although fish does not in any way enter into the composition of the dish. Red cray-fish and black glazed truffles always make a dish look pretty, and sometimes the top of the dish is ornamented with a silver arrow stuck through the black truffle first, and a red cray-fish afterwards.

Macaroni is sometimes used for ornamental purposes, as follows:—Boil some pipe macaroni till it is nearly tender, and then with a knife cut these pipes into little pieces, barely a quarter of an inch long. Take a small plain mould, butter the inside thickly, and stick the inside of this mould closely all over with these little thin rings of macaroni. Now fill the interior of the mould, which must be a small one, with some kind of tolerably firm forcemeat—like sausage-meat; minced chicken and tongue will do very well. Now make the whole thoroughly hot in the oven or by steaming, and then turn these little moulds out. You will now have a very pretty dish. The little moulds outside are all covered with little tiny white rings. Some good gravy can be poured round the base, and a little finely-chopped parsley can be placed on the end of a knife, and allowed to fall over the dish naturally, by holding the knife about a foot above the dish, and flipping the blade of the knife between the fingers.

Before leaving the subject of ornamented high-class *entrées*, a few words will not be out of place with regard to the appearance of dishes that are served in every-day home life. Here, perhaps, the directions given must assume a somewhat negative form; and however outrageous some of these directions may seem to good cooks, who understand their business, they are none the less necessary for those unfortunate women who profess to cook, but have no more idea of artistic taste than a cabbage. A few words, then, how not to do it, those directions somewhat resembling the books on *table etiquette*, which might very properly commence with, "Don't pick your teeth with the carving-fork."

—a caution that, to most right-minded persons, seems as unnecessary as the one in the prayer-book gravely informing us a man may not marry his grandmother.

First—suppose a dish of mince, and that you are going to send to table a dish of mince for six persons. Don't pick out the dish that would generally be chosen for serving a haunch of mutton. How often do we see a huge surface exposed to view, round which a watery fluid has run—we cannot call it gravy—while outside the whole some pieces of thin dried toast, varying in colour and cut into little wedges, are spread by way of ornament! This dish of mince is often not more than half an inch deep, while the surface can be measured by some fraction of a square yard. The dish, owing to the enormous space exposed to the air, gets cold almost immediately the cover is taken off, and thin films of fat gradually form before our very eyes, like a pond just beginning to freeze. These same remarks apply to hashed mutton, which is often sent to table in a similar fashion. The cook cuts the cold mutton into very thin slices, and then spreads these slices out on an enormous dish, which is again increased in size by those awful sippets. Why cooks should proceed in this fashion it is impossible to say. Perhaps they are fond of problems, and are endeavouring to calculate how many legs of mutton cut into slices it will take to cover an acre! The so-called gravy in the dish too often resembles the pale fluid that ran out of the mince, while here and there may be observed little rings and ribbons composed of green onion.

In the case of both hash and mince, endeavour to reduce the gravy till it is only sufficient to moisten the meat. Let this be dark brown in colour. Let both be served in a vegetable dish, thereby enabling the meat to keep hot. Both hash and meat can be flavoured with a little Harvey sauce, which is now sold in sixpenny bottles; and instead of having those pale sodden sippets, cut some stale bread into ornamental shapes, such as hearts or stars, and *fry* them a nice bright golden colour, using these instead to ornament the dish. In the case of hashed mutton, a very pretty addition, both in regard to appearance and flavour, is a few pickled walnuts placed alternately with a few red chillies. The walnuts can be made hot by being placed in a saucer in the oven. They are too acid as a rule to be used just as they are, but the heat will quickly cause the vinegar to evaporate, and they will become sharp and piquant without setting your teeth on edge; only remember that there is nothing else in the oven at the same time, or it will taste of vinegar as well. You can also get rid of the vinegar very quickly by placing them in a frying-pan, and putting them on the hot-plate for a short time.

Vegetable Dishes.—In the present day, when there are so many persons of really good position who, from conscientious grounds as well as those of health, restrict their food to vegetable diet only, it is of some importance to be able to serve a strictly vegetarian dinner, in which the eye shall be pleased as well as the palate. It will readily be admitted that to give a vegetable dinner that will have the aspect of being hospitable is a matter of some difficulty, more especially as vegetarians are always strict teetotalers; and to finish up such a festive occasion with two decanters of cold water, and ask guests “Which will you take—hard or soft?” instead of port or sherry—requires no little nerve on the part of the genial host.

There are various kinds of vegetarians; the strictest sect never touch either fish or eggs; and it is not an easy matter to supply a series of dishes that look really pretty composed entirely of vegetables. We must bear in mind that ornamenting dishes necessarily implies time. Perhaps one of the simplest forms of ornaments for vegetables generally would be potato-balls; mashed potatoes can be rolled into small balls not much bigger than a marble, and these can be placed round the base of any dish, alternately with some kind of green vegetable. You can have balls made with spinach, but the spinach must be squeezed very tightly to express all the water, and a little butter must be added when it is hot, which will help to bind it together. Brussels sprouts can also be placed alternately with potato-balls. One of the most substantial of vegetarian dishes is white haricot beans well soaked in pure olive oil and flavoured with garlic. This dish should be ornamented by having a dessertspoonful of rather coarsely-chopped parsley sprinkled over the beans just before they are sent to table. A very nice and pretty ornamental dish can be made by first of all making an ornamental potato border, and filling this with some freshly-picked mushrooms, which should be fried in a very little butter till they are perfectly tender, and then a little cream can be added, as well as a little lemon-juice and cayenne pepper; a little coarsely-chopped parsley may be thrown into the middle of the dish, on to the centre of the mushrooms, and some of the coarse parsley may be sprinkled on to the edge of the potato border. If this dish is made from tinned mushrooms, or very small white button mushrooms (which are rare in this country), the dish, or rather the interior of the dish, will be white, and then cream may be added with advantage. If you haven't got any cream, thicken sufficient milk with a little butter and flour, and then add the yolk of an egg. If the mushrooms are black underneath, similar to those used for making ketchup, don't use any cream

at all. You can thicken the black gravy—for it will be black—with a little ordinary flour or corn-flour. This black in the centre of a potato border does not require any additional ornament, but looks very well as it is.

All kinds of young vegetables, such as young carrots, young turnips, young parsnips, new potatoes, &c., can be plainly boiled, and then covered with a rich thick white sauce, made like custard, without any sugar, over which can be sprinkled some green chopped parsley, and, if you like, a few red specks, made by shaking a few breadcrumbs in a saucer with a few drops of cochineal.

Whether restricted vegetarian diet does conduce to make the temper mild, humane, merciful, and tender-hearted is perhaps an open question. When we recall the scenes of the Indian Mutiny, we would trust wife and children to the tender mercies of whisky-drinking Scotchmen rather than the dusky inhabitants of the Punjaub, notwithstanding that they live solely on rice, and drink no strong drink. We will not now, however, discuss the respective merits of beer or bhang, but return to our subject. A very pretty form of serving rice is to make of it little balls not much bigger than an egg; these can be covered with yellow custard, which can be made very thick, and a few sugar-plums sprinkled on the top.

One of the most substantial dishes of vegetables when served alone is Spanish onions. Try, therefore, as follows:—Take two or three Spanish onions, and stick half a dozen cloves in each, boiling them till they are tender, and in the meantime take the remains of any piece of paste you may have by you which may be left after making a pie; roll it out thin and cut it into strips, not much thicker than the stem of a tobacco-pipe or a penholder; now place the onions on a dish, and make little rings with the pastry, the biggest ring placed round the centre of the onion, just above the biggest part, so that it will not slip; a smaller ring to be placed round the onion about an inch above it. Of course these rings will fasten easily by simply pinching the ends together with the fingers. Cut off the tip of the onion with a sharp knife, taking care you do not break it, and place a little tiny ornamental knob of pastry on the top. Paint these rings over with some beaten egg, and then place the onions in the oven, baking them till the pastry is done, when they can be sent to table. This has a pretty effect, as the onions have the appearance of ornamental wicker-work.

Hard-boiled eggs are another substantial article of diet. These can be made to stand up on one end by simply cutting off the tip *à la* Columbus. Do not throw away these little white pieces, but chop them

up fine, and place over them a few drops of cochineal, which will turn them a bright red, when they may be sprinkled over the dish with a little parsley. It costs no more, but makes the dish look far prettier.

Cold Entrées.—The greatest opportunity for ornamenting is afforded by the enormous fields opened up by cold *entrées* and sweets. Let us take cold *entrées* first; and we will confine ourselves simply to appearances. We will commence by describing how to make a boar's head. This requires a copper mould, which must be well tinned, and which must open in the middle, the two copper sides being kept together by little pegs. We will suppose that you have a mixture to fill the interior of the mould like ordinary brawn; in fact, if you have a copper mould, or hire one, you can melt some good brawn. Fill the mould, after carefully buttering it; let it get cold, and, if possible, put it into the ice at the finish, so as to make the interior very hard; take off the two sides of the copper, and you have got the boar's head complete, so far as the shape is concerned. Then take some very strong, thick, dark glaze, which should be bright. Good stiff aspic jelly, coloured with caramel, does very well for the purpose. (We will describe how to make caramel directly.) Now cover the whole of the outside till it is all of a rich dark mahogany-brown colour.

To set this dish off we require two things—the boar's eyes and the boar's tusks. To make the eyes, proceed as follows:—Cut an oval piece of white of egg, the shape of an ordinary eye, long and oval; and with a penknife cut a round hole in the centre of the white, about the size of a threepenny-piece, and fill this with some bright aspic jelly; and, just as the jelly gets cold, drop a little black piece of truffle in the middle to make the centre of the eye. We can assure the reader that this imitation eye is extremely natural. These must be placed carefully in position on either side. The best tusks in the world for this purpose are to be obtained from two Brazil nuts. Crack two large Brazil nuts without breaking the kernel. Should all other means fail for breaking them, the crack in the kitchen door will prove effectual, if the cook be of average weight. Throw the kernels into boiling water, and rub off the brown skin; and the white, or rather yellowish-white, oily nut, both for colour and appearance, will make a better representation of a boar's tusk than anything that can be achieved by hand-carving, even by the most skilled cooks. These are stuck upright, near the mouth. The base of the dish can be ornamented with aspic jelly cut in points; and a little heap of chopped jelly can be piled up on top of the head. The back, where the animal is supposed to

have been beheaded, can be covered with a white dinner-napkin, which should be so folded that it is just pinned on round the edge. An ornamental flower, such as a camellia, can be placed at the top.

For ornamenting all kinds of cold dishes composed of any kind of meat, aspic jelly is the first essential. As we have already said, the cheapest and simplest method of obtaining it is to buy it in bottle. When made at home, the first desideratum is to have it bright; and aspic jelly requires flavouring with a little garlic and a little French white wine or hock. This is far superior to vinegar. If you have small moulds, very pretty ornaments can be made by stamping out little figures, such as stars, leaves, &c., with white of egg and truffle, and allowing these to set in the centre of some aspic jelly. It is very easy to make a small mould which will turn out a stick of aspic jelly two inches long and about an inch square—a sort of little block. When this contains the little black and white ornaments we have mentioned, a silver skewer can be run through it, so that it will then stand upright on the top of any dish, such as gullantine, &c.

Another very pretty ornament can be made to imitate a chess-board. Strips of aspic jelly of a bright yellow and a very dark brown can be placed side by side and stuck together; then cut them across with a sharp knife in a contrary fashion. Then by reversing the position of the alternate rows you have a perfect chess-board. To do this neatly, however, requires considerable skill.

A very pretty form of ornamenting cold pheasant is, after having glazed the bird, to cover it on each side with two dried wings containing the bright plumage of the bird itself. The pheasant's head, containing the feathers round the neck, can be attached at the end by running a tin skewer through the head and neck, and then afterwards bending the skewer into the position of the arched neck of a swan. Of course, when the bird is cut up, the wings and head have to be removed. A cold game pie made from pheasant can be ornamented in a similar fashion. The head and neck of a stuffed peacock, covered with bright blue plumage, and bent in the fashion we have mentioned, is sometimes used for ornamenting some large dish composed of game; and when artistically arranged, there are few dishes to match it in appearance.

Caramel.—Caramel is one of the essentials for ornamental purposes. Caramel is another word for burnt sugar; but English cooks are too apt to use burnt sugar for colouring purposes—generally, to colour soup or gravy—in the following way:—They first of all take an iron spoon and place two or three lumps of sugar in it, or else some brown sugar,

and put the spoon almost in the fire. The sugar begins to melt and bubble, and very often flame, which it ought not to do. It turns a deep red colour; and if children happen to be looking on at the operation, the cook will generally improve their infant minds by informing them that sugar is purified by bullocks' blood, and this is the blood coming out with the heat: an idea which is generally believed to their dying day. The blackening spoon and burnt sugar are generally plunged into the gravy with a hissing sound, and affords us another instance of how not to do it.

How much more simple to proceed as follows:—Get a frying-pan—an old one will do—and place in it, say, a quarter of a pound of sugar, and melt it over the fire till it turns a rich dark brown colour. Now add to it some cold water, and let it boil up till the burnt sugar is thoroughly dissolved, and the whole becomes of the consistency of rather thin treacle. Pour this into a bottle, and put it by for use. A few drops can be used when required for improving the colour of soups and gravies, or ornamental aspic jellies for *entrées*; and also can be used in large and small quantities for an almost infinite variety of sweets.

A variety of dishes served cold are ornamented by being masked over with some kind of white sauce. To ensure the colour being good, a small quantity of cream is essential. Cold boiled chickens masked over with a pure snow-white sauce will always form a pretty dish; and the mistake is to add too much colour rather than too little. A chicken will look very pretty if ornamented with nothing else but aspic jelly. A star of jelly can be placed on the breast, and some more bright aspic jelly arranged round the bone. A few black specks of truffle may be placed in the star of jelly, and no more. We are not sure that this sweet simplicity of ornament is not better than more elaborate decoration; just as one of the guests at a ball in a plain white muslin, and her hair done up with a piece of simple ribbon, will be more admired than many who surround her dressed in expensive silks and satins, set off with costly jewellery.

We have already referred to lobster salads, and to the best methods of rendering attractive in appearance dishes masked with Mayonnaise sauce. Remember, however, that Mayonnaise sauce can be made green by the addition of a little of the vegetable colouring matter to which we have before referred. Plain green and white is always pretty; and a dish composed of cold filleted sole can be made by covering each rolled fillet with white Mayonnaise, and finishing off each little heap with a drop of green Mayonnaise on the top, whilst some bright aspic jelly can be placed round on the base.

In concluding the subject of cold *entrées*, it should be remembered that you always have the following materials with which to work:—Red cray-fish and any sauce, such as Mayonnaise, &c., coloured red with lobster butter; the red skins of chillies and capsicums, besides a variety of substances, such as breadcrumbs, white of egg, and vegetables, coloured red with cochineal: only remember that the red of cochineal will not mix with any of the other reds we have

mentioned. We then have black truffle, and—it is a very poor substitute—the outside skins of pickled walnuts. For green our sheet-anchor is parsley; while sauces can be coloured green with vegetable colouring matter or spinach juice. The colour yellow should always be used sparingly, and cut lemon is best for the purpose.

The ornamentation of sweet dishes we will take as the subject of a separate article.

CONSTITUTIONAL DISEASES.

It is difficult to define accurately what is meant by a constitutional disease. The term "constitution" is synonymous with "diathesis," and means the conformation or habit of the body. We speak of a man's constitution being "sound," or, on the other hand, we say that he has a "weak constitution." By a sound constitution we mean that there is a harmonious development of the various structures and tissues of which the body is composed, and that there is no particular tendency for any part to break down or give way under exertion or stress of work. People whose constitution is weakly, suffer from deficient vitality, and are apt to collapse under pressure of circumstances. A person who has a weak heart is obviously unfitted for mountain climbing, whilst those who have an unstable nervous system are apt to suffer from sleeplessness, and bear worry and anxiety badly. This is seen in the case of stock-brokers and others engaged in large commercial transactions. The man of equable temperament bears his losses and takes his gains with equanimity, whilst the nervous man is apt to be unduly depressed or elated. It is the same with the digestive apparatus; the individual with a sound stomach eats and drinks anything and everything with impunity, whilst his less fortunate brother is what is called fastidious, and is easily upset by any little error or indiscretion in diet. The gouty or rheumatic subject has to select his food with the greatest care, whilst a person who has no such hereditary or acquired tendency may do pretty much what he pleases without suffering. The abuse of alcohol and tobacco, late hours, deficient exercise, work in ill-ventilated rooms, prolonged anxiety, and other similar causes, have a tendency to lower the vitality and to favour the development of constitutional diseases. We cannot, in our present state of knowledge, lay down rigid lines of demarcation between local, general, constitutional, and specific complaints, but the general classification is readily recognised, and is, to say the least of it, convenient. A disease

may begin locally, and may subsequently develop into a constitutional malady. For example, consumption is usually at first a disease of the lungs, but after a time it affects nutrition, causes general wasting, sets up diarrhoea, and presents all the features of a constitutional disease. Doctors are often asked if a complaint is "constitutional," and it is hardly surprising if some difficulty is experienced in many cases in answering dogmatically what at first sight appears to be a very simple question.

In the following list an attempt has been made to give an account of the salient features of some of the more readily-recognised constitutional diseases, whilst in a second we will include disorders whose classification is not so easy.

Rickets.—Rickets is a constitutional disease peculiar to children. In the early stages the symptoms are those of stomach derangement. The bowels are noticed to be irregular in action, sometimes confined, but more generally relaxed. The stools are deficient in bile, are of a dirty-brown colour, and have an offensive odour. The appetite is poor and capricious, and the powers of digestion are greatly impaired. The child is dull and apathetic, sad or peevish, and exhibits no inclination to play. The skin is hot, the temper is irritable, and there is marked drowsiness, although the sleep may be disturbed. The patient is always thirsty, and "craves for water." He walks but little, and lies about in a listless manner, complaining of pains in the limbs, especially in the joints. The face is pale, the flesh is flabby and soft, the pulse is quick, and the hair is thin. In these symptoms there is nothing absolutely characteristic; but their occurrence in a previously healthy child should lead to a suspicion of the nature of the illness.

After a time it is noticed that the child perspires profusely about the head and neck and upper parts of the body, especially at night. He kicks off the

bedclothes, and displays a marked desire to be cool. On examination it will be found that there is tenderness all over the body, and it will be noticed that the child cannot be moved without crying. The urine is more abundant than is natural, and deposits copiously on standing. As the disease progresses, the patient acquires a peculiar staid and sedate aspect, which is very characteristic. The features grow broad and square, the head sinks between the shoulders, and the face turns upwards.

After a time deformities of the bones show themselves, and the legs are curved or bent. The wrists enlarge, and the ribs are noticed to be swollen and knobby. The bones are soft, and may be bent by the most trifling force. The knees knock together, and the legs are curved or twisted in various ways. The spine, too, suffers, and soon presents symptoms of curvature. The unfortunate patient becomes terribly deformed, and is in constant suffering. These changes take place so gradually that for a time they may escape observation. Bronchitis is apt to set in, and not uncommonly proves fatal.

The disease is due to predisposing causes derived from the parents, an innate or congenital debility being imparted to the infant's constitution, which is not easily eradicated. It is most likely to develop when the children of a family are badly housed and badly fed. If not essentially a poor man's disease, it certainly occurs with far greater frequency amongst the poor than the well-to-do. Errors of diet and the absence of a proper supply of milk have much to answer for in these cases. It too often happens that children are given food which they are absolutely incapable of digesting, which not only does no good, but sets up irritation of the stomach and intestines.

In the treatment of rickets, whether in the early stage or later on, when deformity is present, the greatest attention will have to be paid to the sanitary and hygienic conditions under which the child is placed. The rooms should be well ventilated, and the patient must have plenty of fresh air. The diet of a child under eight months old, and brought up by hand, should consist chiefly of milk diluted with a fourth part of lime-water, whilst the addition of a teaspoonful of cream will be found beneficial. Gruel, plain biscuit, aerated breadcrumbs, or baked flour, may be added in small quantities to the milk. If much difficulty is experienced in assimilating this, a teaspoonful of Kepler Extract of Malt may be added to each pint of the milk. Ass's milk is sometimes beneficial as a change. As the child grows older, a little beef-tea may be given from time to time. The food should always be ample, but care must be taken not to overload the stomach.

The child should be taken out as often as the weather permits, and in the summer should remain

in the open air the greater part of the day. The clothing should be warm, and the legs should be well covered. The body should be sponged all over at least once in the twenty-four hours with tepid water and soap. Warm salt baths are useful, and act as a powerful tonic to the skin. The child should sleep alone, and the bedclothes must be perfectly sweet and clean. Ventilation is of the utmost importance, and if neglected retards the progress of the restoration to health.

There are many medicines which are useful in this complaint—lime-water, given freely in milk, being one of the best. A third of a grain tabloid of grey powder three times a day acts as a tonic, and improves the general nutrition of the tissues. Ten drops of steel wine in a little water will be found useful in cases in which poorness of the blood is a marked symptom. Cod-liver oil is remarkably beneficial, and may have to be taken continuously for many months.

The child should, if possible, be taken away in the country, either to some seaside resort, such as Margate, or to some inland place where the air is cool and bracing.

Massage is useful as an accessory measure, and will give tone to the weakened muscles.

If these directions are faithfully carried out, the child will recover, but progress must of necessity be slow. When the limbs are bent, there is often a wish on the part of the friends to resort to the use of irons, and other forms of mechanical support, but too often these prove worse than useless. A long splint applied to the leg, and projecting for some inches beyond the feet, may be useful by preventing the child from walking, when the limbs are too weak to support the weight of the body.

Tuberculosis.—Tuberculosis is the constitutional tendency from which the children of consumptive parents most commonly suffer. When it assumes an active form, it attacks various parts of the body—notably the bowels, the mesenteric glands, and the membranes covering the brain. When the head is the part affected, we are confronted with that terrible disease known as tubercular meningitis. When the mesenteric glands are the seat of the morbid change, the child rapidly wastes away, and is said to be suffering from marasmus. If tubercle appears in the bowels, there are usually attacks of diarrhoea, alternating with prolonged periods of constipation. In young children the tubercle is less prone to attack the lungs than in the case of adults, but a prolonged or persistent cough in a tubercular child should always be regarded with suspicion, and should lead to a careful examination of the chest. It must be remembered that young children rarely expectorate, and that the lungs may be almost eaten

away by disease before the real nature of the complaint is recognised. One of the best safeguards is to take the temperature frequently, and should it at any time be found over 100° Fahr. the doctor should be at once consulted. The lives of children are often sacrificed for want of a little care in this respect. Every mother should have a clinical thermometer, and should learn how to use it.

There are many circumstances which favour the production of tuberculosis. First and foremost among these is hereditary tendency. Next comes overcrowding, with its accompaniments of dirty and bad air. A damp ill-drained soil is an important factor in its production, and it has been conclusively shown that the introduction in a town of an efficient mode of sub-soil drainage does more than anything to reduce the mortality from tuberculosis and consumption. Finally, the frequent occurrence of coughs and colds may lead to permanent disorganisation of the lungs and the deposition of tubercle.

The treatment of the tubercular condition is one necessitating the greatest possible care. A tubercular child who is badly treated, almost invariably dies. Plenty of good fresh air is the great desideratum. It is better for the patient to sleep almost in the open air, than in a stuffy ill-ventilated room. Anything approaching "coddling" is to be condemned. It does not matter how delicate the child may be, the greater part of the day should be spent in the fresh air, and it should be country air if possible. Good stout boots and warm clothing are essential. Good food, too, is equally necessary, and milk should be one of its chief constituents. Cod-liver oil and Kepler Extract of Malt given month after month are absolutely necessary. Fellowes' Syrup of the Hypophosphites will be found very useful. Lime helps to consolidate the bones, and should be given in the form of lime-water mixed with milk. Burrough's Beef and Iron Wine is both a food and a blood tonic, and is always taken by children without difficulty. If there is much cough, a teaspoonful of syrup of tar, made according to the formula of the United States Pharmacopœia, is the best remedy, or the tar may be procured mixed with the Kepler Extract. With care the tubercular subject may shake off his diathesis, and grow up to be a strong man, capable of battling with the world and undertaking his full share of work.

Consumption itself might, quite properly, be treated here; but as a chapter will be devoted specially to "Diseases of the Throat and Chest," it will be more convenient to refer it to that heading.

Scrofula or **Scrofulosis** is a constitutional condition the effects of which are especially manifest in the case of children. The disease is sometimes

known as the "King's Evil," although this term is less commonly employed than formerly. Children who are the victims of this condition differ much in general appearance from healthy children. They are dull, lymphatic, and heavy-looking. They have muddy complexions, a thick skin, coarse straggling hair, and clumsy limbs. The upper lips and the margins of the nose are thick, the nostrils are dilated, the face is essentially plain and expressionless, and the abdomen is often large and distended. They have large lymphatic glands, readily distinguished as dense masses behind the ears and in the region of the neck. They are subject to strumous inflammation of the eyes; to catarrh of the mucous membranes of the nose, bronchial tubes, stomach, and bowels; and often suffer from skin eruptions and diseases of the bones. "White swellings" of the knee-joint are not uncommon in scrofulous subjects.

Of the real nature of scrofula little is known. When we are asked what that property is which serves as a bond of union between the particular diathesis or constitutional condition and its peculiar manifestations, we can only reply that it is a special form of constitutional weakness, debility, or degeneration which attacks all races of mankind. We know, as a matter of fact, that whatever lowers the condition of health in the parents, tends to the production of scrofula in the offspring, and that when once engendered it is hereditary. Congenital scrofula does not as a rule show itself during the first year of life; but at the expiration of that period, and for many years subsequently, its manifestations are well marked. As age advances, its effects are less obvious; and it shows a marked tendency to wear itself out under favourable hygienic circumstances.

It may be of service to compare briefly the leading features in typical cases of Scrofulosis, Tuberculosis, Rickets, and Hereditary Syphilis.

In *Scrofulosis* the temperament is lymphatic or phlegmatic, the mind and body are lethargic, the figure is heavy, the gait is ungainly, the skin is thick and opaque, the complexion is dull and pasty, the lymphatic glands of the neck and other parts are enlarged, and the bones are often affected. The subjects of this diathesis are prone to inflammation of the eyes and eyelids; to catarrh of the mucous membranes of the lungs, stomach, intestines, and other parts; and to obstinate skin diseases.

In *Tuberculosis* there is a highly-developed nervous system, the mind and body are quick and active, the figure is slight, the skin is thin and delicate, the complexion is clear, the face is refined, the eyes are bright, the pupils are dilated, the eyelashes are long, the hair is silken, and the bones are small. Children who suffer from this condition

cut their teeth early, are distinctly precocious, and are supposed to be "clever." They are prone to fatty degeneration of the liver and kidneys, and usually die of consumption.

In *Rickets* the mental condition is not good, the mind and body are both inactive, the figure is short and clumsy, the face is small but broad, and the skin is opaque and covered with downy hairs. Children who suffer from this diathesis are usually not favourites with their parents, they are late in cutting their teeth and in running alone, and are not good at "showing off." They often suffer from deformities of the limbs and crooked joints, and die from convulsions or enlargement of the liver or spleen.

In *Hereditary Syphilis* deficient vitality is the leading characteristic. The symptoms are sufficiently well marked to be easily recognised, especially as they make their appearance during the first three months of life. The child is thin and wasted, and looks like a little old man. "Snuffles" are frequent, and difficulty may be experienced in taking the breast or the bottle. The soles of the feet are red and raw, and the child, unless carefully treated, wastes away and dies.

From a consideration of the leading features of these diatheses, very little difficulty will be experienced in recognising the scrofulous condition, and distinguishing it from the constitutional disorders with which it is most likely to be confounded.

The treatment of scrofula is simple, but it is essential that it should be continued for months or even years. It is hardly necessary to say that the custom of "touching for the King's Evil" has long been a thing of the past, and that more reliance is now placed on cod-liver oil, Kepler Extract, and other drugs. Cod-liver oil is a most excellent remedy, and even a young child may be given half a teaspoonful three times a day mixed with milk or any convenient vehicle. As a rule cod-liver oil cannot be taken in the summer, and the Kepler Extract of Malt will have to be substituted, the dose being a tablespoonful three times a day. Tabloids of sulphide of calcium, containing one-tenth of a grain in each, are excellent for checking the scrofulous manifestations. For a child four years old one tabloid may be given three times a day; but for a child one year old the tabloid should be crushed to powder and only a third, or even a quarter, administered at a dose. The syrup of iodide of iron is excellent, from ten to twenty drops being given in water three or four times a day.

Enlarged Glands.—Enlarged glands in the neck are very common, especially in children of well-marked scrofulous diathesis. They often attain a considerable size, and give rise to great disfigurement.

After a time they soften, the contents bursting through the skin and forming a chronic abscess. Not infrequently the glands under the lower jaw become enlarged, and undergo a similar change. This process is often set up by some acute illness, such as scarlet fever or a bad attack of measles. The general health suffers, and unless active steps are taken the patient rapidly loses flesh, and develops a tendency to consumption. Simultaneously with the enlargement of the glands the tonsils become swollen, presenting a serious impediment to the free ingress of air into the lungs.

The treatment of this condition requires a good deal of care, and may have to be prolonged over a period of some months, or even a year or two, to ensure complete restoration to health. Probably the best remedy is sulphide of calcium, given in the form of tabloids, each containing a tenth of a grain. One tabloid should be taken three or four times a day for three or four weeks, when, after an interval of a week or two, another course of the same treatment will be found beneficial. As an accessory measure Kepler Extract of Malt, or the Extract of Malt and Cod-liver Oil, will prove most useful. From time to time syrup of iodide of iron, or Burrough's Beef and Iron Wine, should be given to improve the general nutrition. When the tonsils are large, they should be painted with glycerine of tannin, but possibly a surgical operation may be necessary for their removal. Children with enlarged glands should never be allowed to live on a clay soil, and should, if possible, be sent away to some bracing seaside place, such as Margate.

Gout.—When gout attacks the foot, it is known technically as podagra; when the hand is the seat of the disease, it is called chiragra; whilst gonagra is the term applied to it when the inflammation is limited to the knee. It has been known for many centuries, having been accurately described by Hippocrates. It is a disease which is distinctly hereditary, and in a large number of cases in which the family history can be obtained, it will be found that the father or grandfather suffered in the same way. Men, curiously enough, suffer from it very much more frequently than do women. This may, perhaps, in part be explained by the fact that women dislike to be told that they are suffering from gout, and insist on calling their complaint "rheumatic gout." It is usually a disease of adult life, but when the hereditary influence is strong it may attack a boy at school, especially if by chance he should live well and take little exercise. Indulgence in alcoholic drinks is one of the chief causes in the production of this malady. Curiously enough, spirits seem to be less potent in this respect than either wine or beer. Gout is frequently met with amongst the working

classes in London, whilst in Edinburgh and Glasgow it is comparatively uncommon. The light French and German wines rarely give rise to an attack; but port, Madeira, sherry, and Marsala, if taken habitually, are potent gout-producers. There is some difference of opinion respecting the influence of cider in this respect; and there is reason to believe that whilst fully-fermented cider is innocuous, sweet and partly-fermented cider cannot be taken with impunity—at least, for any length of time. Gout rarely attacks those who live chiefly on vegetable food: whilst, on the other hand, those who take meat freely are more liable to suffer from it.

A well-known medical authority says:—“As regards habits, it seems to be universally admitted that long-continued indulgence in alcoholic beverages, long-continued over-eating (especially of animal food and of rich dishes), and prolonged insufficiency of exercise, are (especially in combination) powerful agents in the causation of gout. It is, however, generally held that all alcoholic beverages are not equally injurious in this respect, that the distilled spirits are comparatively innocuous, that the light wines (claret, hock, Moselle, and the like) are also fairly wholesome; but that the strong wines (sherry and Madeira, and, above all, port) and malt liquors are all virulent gout-producers. But on what, it may be asked, do the injurious effects of alcoholic beverages depend? If, as seems reasonable to assume, they are due to the alcohol which they contain, how can we accept the statement that the distilled spirits are almost harmless, while bitter ale and porter are highly poisonous? If, on the other hand, the alcoholic constituent be acquitted, must we refer them to the comparatively simple matters which give to alcoholic beverages their respective flavours, or their colours, or their body; matters which are most of them not special to such beverages, are most of them certainly not unwholesome, and individually form an insignificant percentage of the whole? We must confess our distrust of the evidence which, while accusing alcoholic drinks of causing gout, acquits the alcohol itself. On similar grounds we venture to submit, notwithstanding almost universal testimony to the contrary, that port is no more injurious than sherry or Madeira, or other wines of equal strength. It is probably less in consequence of the port which they drink than of the association in their case of over-drinking, over-feeding, and want of exercise that the higher classes suffer more frequently from gout than those who occupy a lower station of life.” Speaking broadly, it may be said to be an aristocratic disease, attacking by preference the rich rather than the poor: but to this there are many exceptions, and some of the worst cases are met with in the workhouse infirmaries in London.

Indigestion in its manifold forms often leads to gout; and severe mental labour, by lowering the tone of the nervous system, is a common cause. The disease is, curiously enough, especially common in people who in some form or other are brought in contact with lead. Painters, plumbers, and compositors (who handle type-metal containing lead) frequently suffer.

The history of an attack of acute gout is so characteristic that a typical case can hardly be mistaken. The patient, as a rule, retires to bed perfectly well, but in the early morning is disturbed by an excruciating pain in the big toe. He gets out of bed, and finds, to his alarm, that the joint is red, swollen, hot, and exquisitely tender. He is feverish and hot, there is thirst, loss of appetite, and a general sense of *malaise* or discomfort; and he recognises the fact that he cannot get up. After a few days, and under judicious treatment, the inflammation subsides, and he is able to get about as usual. He usually regards it as a warning, and for some weeks, or perhaps months, leads a most abstemious life, abjuring alcohol in all forms, and taking plenty of outdoor exercise. After a time, however, the impression passes off, and little by little he resumes his sedentary habits and accustomed mode of life, and soon after has a second attack, which is probably not limited to one joint, and is not so easily cured. After a time the attacks become more frequent, and little by little all the larger joints are invaded, toes, ankles, knees, and even the wrists, being affected. The attacks recur with increasing frequency, until at last the patient is fain to confess that he is a confirmed gouty subject. Even in the intervals of the exacerbations he is seldom free from pain, and his powers of getting about and following his usual avocations are distinctly limited. After a time chalk-stones are deposited on the joints, so that they are stiffened, and can be moved only with difficulty. These concretions—or “tophi,” as they are called—are deposited on the margin of the ear, where they may be seen as little white specks, varying in size from a pin’s head to a split pea. Sometimes they cause irritation, and go on to the formation of what are called “gouty abscesses.” The patient is fortunate if the disease follows its orthodox course, for not infrequently it attacks one or other of the internal organs, and affects the heart or the nervous system. There is, in fact, hardly any disease which gout may not simulate or even excite. Palpitation, bronchitis, Bright’s disease, and a number of other complaints, including various skin diseases, have frequently their origin in a gouty predisposition. An ordinary attack of gout is very amenable to treatment: but these more obscure forms are extremely difficult to cure, and require the most careful attention.

is rarely confined to one or two joints, but extends all over the body. The erratic nature of the complaint is one of its characteristics; at one time the knees and ankles, at another the elbows and knees, suffer, whilst not infrequently the development of inflammation in one set of joints is accompanied by its rapid subsidence in another. A curious symmetry is often exhibited in the order of the attack; first the right ankle is involved, then the left; next the right knee, and then the left; and so on for the other joints. During the time of development of inflammation in the joints the skin is usually covered with profuse acrid perspiration, which causes the patient much distress. One of the worst features about an attack of rheumatic fever is that it is apt to involve the heart, which may become permanently diseased. The ordinary duration of acute rheumatism is three weeks, but it may be prolonged much beyond this period. It is a disease which is quite unsuited for household treatment, and a doctor must be sent for without a moment's delay. Even under the most favourable circumstances, it is always a serious disease. The remedy commonly employed is salicylate of soda, and this, if given early, often materially modifies the duration of the attack, besides lessening the liability to heart complications.

In sub-acute rheumatism the temperature is not so high, and the joint affection is much less severe. Its duration, however, is often more prolonged, and the patient may be confined to his room for several weeks. The occurrence of an attack of rheumatic fever increases the liability to both acute and sub-acute rheumatism. It must not be supposed, because the attack is sub-acute, that the services of a doctor can be dispensed with; that is not the case, and skilled medical assistance must always be obtained. Any fever attended with inflammation of the joints is serious, and necessitates skilled assistance.

Chronic articular rheumatism is a common disease, and sometimes follows an acute attack. The pains are often very severe, and are not uncommonly worse at night, when the patient gets warm in bed. Salicylate of soda does good in this condition, but it acts far less promptly than in rheumatic fever. When the pains are worse at night, or when the pain is limited to one joint, iodide of potassium is the best remedy—two five-grain tabloids being taken with a draught of water three times a day. Local applications, in the form of liniments, are nearly always useful. A good liniment is the ordinary hartshorn and oil, rubbed in freely: whilst the turpentine liniment affords relief by reddening the skin and acting as a counter-irritant, as it is called. Belladonna liniment may relieve the pain when it is very acute, but if deep-seated it is not very efficacious. A good application to the joint is a sulphur poultice,

made of equal parts of flowers of sulphur and linseed, and applied as hot as can be borne.

In muscular rheumatism the pain, as the name indicates, is situated not in the joints, but in the muscles. Lumbago is a good example of muscular rheumatism. It sometimes assumes an acute form, but is much more commonly chronic. There is nothing to be seen externally, yet the patient suffers most acutely. The attack usually lasts only a few days, but it comes back time after time, so that the patient is hardly ever free from it, especially if he should have the misfortune to live in a damp place or on a clay soil. There is reason to suppose that people of a gouty habit of body are more like to suffer than others. There are many remedies for muscular rheumatism, one of the most efficacious being the ammoniated tincture of guaiacum, taken in teaspoonful doses in milk three times a day. Ten grains of nitre in a wineglass of water, flavoured with syrup, will often succeed admirably. Sometimes a couple of blisters, about the size of half-a-crown, will check the pain, especially if it be limited in extent. Belladonna liniment as a local application is excellent. Another good application is equal parts of hazeline and lanoline, rubbed in with a few drops of olive-oil. In obstinate cases a Turkish bath may be tried with advantage.

There is an affection allied to rheumatism called rheumatic gout. Its technical name is rheumatoid arthritis, and it is to be feared that its real nature is often overlooked. It generally runs a very chronic course, and may give rise to great deformity of the hands, and possibly of all the joints. Colchicum, which is so wonderfully useful in true gout, does little or no good in this affection, but iodide of potassium in ten-grain doses three times a day often does good. Tincture of iodine painted freely on the affected parts may relieve the symptoms—at all events, for a time.

Lumbago.—Lumbago is a rheumatic affection of the muscles of the loins, one or both sides being involved. It often results from exposure to wet or cold, and may come on quite suddenly. The pain is usually very intense, so that the patient is unable to stoop, and is practically incapable of any exertion. With some, however, it is much more moderate. Walking is difficult, and the patient is almost bent double. The complaint is easily recognised by the characteristic pain, usually referred to the loins, greatly increased by stooping and the effort to turn in bed. The back should, however, be carefully examined, so as to avoid the not uncommon error of mistaking a spinal disease for the more simple complaint. Kidney disease is often associated with a pain in the back, and an examination of the urine will be necessary to eliminate this source of fallacy.

A great deal may be accomplished in the way of treatment, supposing always that the pain is purely muscular in origin. A large linseed and mustard poultice, applied as hot as can be borne, does as much good as anything. A Turkish bath, if obtainable, is useful, and will often effect a complete cure in the course of a few hours. The application of a powerful Faradic or galvanic current is another mode of treatment much in vogue, but in unskilful hands it may do harm instead of good. Freezing the painful part either with ice or other sometimes instantly relieves the pain. A good strong plaster affords relief to the overstrained and painful muscles, and may be applied with safety. The plaster should be put on carefully, and wrinkles must be avoided.

With respect to internal remedies, there is not much to be said. Iodide of potassium is one of the best, but it often fails. A four- or five-grain iodide of potassium tabloid should be taken every six hours for a week. Tabloids of nitrate of potassium are also useful, and as many as six a day may be taken with advantage, as they act on the kidneys and increase the urinary secretion. Sulphur sometimes does good, and a tablespoonful of the confection should be taken twice a day for a week. The bowels should be kept well open, and rest in bed will be found beneficial.

Further hints for the treatment of lumbago will be found under the head of RHEUMATISM.

Ague.—Ague or Intermittent Fever is a fever of malarial origin characterised by certain well-marked symptoms—by the sudden rise of temperature during the paroxysm, by the equally sudden fall at its termination, and by the regularity of the return of the attacks. What malaria or malarial poison is, it is not very easy to say. We know that it is generated in the neighbourhood of marshes by the decomposition of vegetable matter, and that it is often spoken of as “marsh miasm.” Years ago it was common enough in England, and especially in London; but now, thanks to improved hygienic conditions, and the spread of subsoil drainage, it is rarely met with, and is practically confined to counties such as Essex, Cambridgeshire, Norfolk, Lincolnshire, and other counties where there are marshes, or fens, or low-lying districts, which are from time to time covered with water. In Holland, in Italy, on the Gold Coast, and in some parts of America, it is still very prevalent, so that not only the residents but casual visitors rarely escape its effects.

A fit of ague comprises three stages—a cold stage, a hot stage, and a sweating stage. To begin with, there are certain premonitory symptoms, such as nausea, languor, lassitude, debility, and pains in the limbs and back. Then begins the cold stage, in which the temperature is elevated, but the patient

feels chilly, and shakes and trembles all over. This is succeeded after a variable interval—say, an hour or two—by burning heat of the skin, quick pulse, raging thirst, and throbbing headache. This is followed by the sweating stage, in which there is a fall of temperature and profuse perspiration, accompanied by relief of the most distressing symptoms.

The frequency with which these attacks recur, varies according to the “type” of the disease, which depends, more or less, on the dose of the poison which the patient has received. Thus, when the type is “quotidian,” the attacks occur daily. When it is a case of “tertian” ague, the patient suffers every alternate day, remaining perfectly well during the interval. The duration of the attacks varies greatly, but in quotidian ague, which is the worst form, they may last five or six hours, or even longer. As a result of repeated seizures, the spleen becomes enlarged, forming an unwieldy mass close up under the ribs on the left side.

Ague is undoubtedly a dangerous disease, but it is very amenable to treatment. We have fortunately a drug which is practically a specific for it. In England the use of quinine in the treatment of these affections is but little understood. It is customary to give it in two- or three-grain doses, but this is practically useless. To obtain relief, the patient must take three five-grain tabloids of bi-sulphate of quinine every four hours. When a traveller proposes visiting a malarial or marshy district, he should arm himself with a plentiful supply of these tabloids, and should not wait till he contracts the disease, but take them systematically, so as to ward off the danger. In the case of an expedition, several bottles of the tabloids should be carried, and they should be served out systematically to every member of the force, precautions being taken to ensure their use. It is only by systematic action of this kind that health can be maintained. Even casual visitors to Italy should not neglect this precaution, and the little bottle of quinine tabloids should always be carried in the pocket. There are other remedies, it is true, but none so good as quinine. The consumption of the article is enormous, and there is nothing which takes its place. The most acceptable present for a resident in a foreign country is a dozen bottles of five-grain quinine tabloids.

When ague is neglected, it gives rise to all kinds of complications, one of the most troublesome and persistent being “brow ague,” and other forms of neuralgia, which may last for years. Here, again, quinine is the one remedy which effects a cure. The terms “ague” and “quinine” are practically synonymous from a medical point of view. Malarial fever *per se* is most dangerous; but malarial fever plus its antidote quinine ceases to be a source of anxiety.

CHILDHOOD AND THE NURSERY.

As a baby grows older, and passes from infancy to childhood, its treatment must necessarily be somewhat changed. The principles on which it is managed may be the same, but the details will be altered to suit its advanced needs. Understanding the period of childhood to extend from infancy to the time when the child leaves the nursery, and commences life as an individual member of the community, attending school, and preparing for the battle of life, we will take these details one by one, and deal with each separately.

Dress.—It will be remembered that when the subject of infants' dress was under discussion, mothers were earnestly advised to procure flannel garments only for their babies; and the remark was made that if mothers would but be constant to flannel, the health of their babies would be benefited. The same advice has still to be given with regard to children's clothing. If mothers would but be constant to flannel, there would be amongst children fewer colds, fewer sore-throats, fewer attacks of bronchitis, croup, inflammation of the lungs, and similar ailments—all of which are to be dreaded, because when once they have been experienced, they leave the organs more liable to another attack. Moreover, the little ones would be kept warm without needing to bear about with them a great weight of clothing to interfere with the action of the lungs and heart; consequently they would be more comfortable, better tempered, and better altogether. As a great medical authority has said, "Flannel tends to keep the body at an equal temperature—thus obviating the effects of sudden changes of the weather; and promotes by gentle friction the cutaneous circulation—thus warming the cold body, and giving an impetus to the languid circulation." The material used may be as *fine* as is liked, but that it should be composed entirely of wool is undoubted.

If, however, the dress of children is to be healthful, the shape is of importance as well as the material. Garments should be large and full in every part, to allow room for growth, and to give perfect freedom.

There must be no tight strings, tight bands, or tight belts; no pressure anywhere. Dresses should be made high in the neck, and with long sleeves to come to the wrist. The practice of letting children wear low-necked dresses with short sleeves is one that ought to be condemned, for it has been the cause of many an illness. As Dr. Chavasse says, "Children—boys and girls—should always wear high dresses up to their necks. It is in the upper part of the lungs, in the region of the collar-bones, that consumption first shows itself." So also Dr. Barker:

"Exposure of the neck, chest, shoulders, and upper arms is very dangerous. The upper and most delicate part of the lungs is situated just behind and above what are known as the collar-bones; therefore with both girls and boys the chest must be well protected, and the upper garments, under and outer, should fit closely, yet not tightly, round the shoulders and neck. Warmth is not, however, always secured by the quantity or weight of clothes, which should be so moderated that the



Fig. 1.—VEST.

child be not unduly heated, relaxed, or oppressed by too many clothes in mild weather, nor chilled by being clad scantily when the air is cold."

If the garments already recommended for the infant were adopted, they might be worn so long as the little one had to be kept in a recumbent position, and was tolerably quiet and helpless. As, however, the small wearer increases in stature and strength, and begins to "feel his feet," to use nursery language, it will be necessary to discard the first garments, and to put him into shorter ones, which will give him the free use of his limbs, and enable him to kick and creep about at his own small pleasure. It strengthens a baby to put him down on the ground, and let him exercise his limbs: for babies are like other young animals, they gain strength by trying their strength. Still, it would be impossible for a baby to creep or kick in clothes which hampered its movements, and hung about its feet. And yet every mother will see that it would not at once be advisable to let either a small boy or

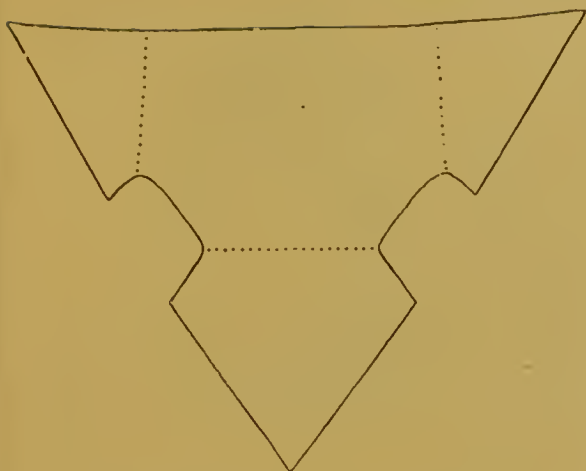


Fig. 2.—PATTERN FOR DRAWERS.

a small girl wear the underclothing recommended earlier both for children, girls, and women—that is, the two combination garments and the *Princesse* petticoat. A child might with advantage begin to wear this clothing when two and a half or three years old; and a girl could scarcely do better than continue to wear the same sort of clothing, altered to size of course, for the rest of her life. But during early childhood it is necessary to have garments which can be partially and frequently changed without entirely disrobing, and therefore from the time when the infant's garments are laid aside to the time when vests, combinations, and *Princesse* petticoats or knickerbockers are adopted, it is necessary to have what may be called the "short-coated costume." The under-garments of this costume are suitable for small boys and small girls; the outer garment varies somewhat with the fashion. It consists of (1) vest, (2) drawers, (3) petticoat with bodicc, (4) dress, (5) pinafore or overall.

The **Vest** (Fig. 1) of the short-coated costume is very much like the infant's vest, the differences being that it is larger, and that it slips over the head instead of opening down the front. This is an improvement, because garments which fasten down the front are apt to open on an active child. The closed shirts would not, however, be equally suitable for an infant, because they could not readily be put on. Vests of this description and of various sizes, to fit children of various ages, take the place of shirts. They can be bought ready-made, or they may be knitted by skilful fingers. The chief point to remember with regard to them is that they must be long enough to come well over the bowels and hips, and high enough to come right up into the neck. If this little vest is but warm, soft, and long, it will in itself constitute a most valuable article of clothing.

Drawers.—The drawers (Figs. 2 and 3) here given may be made both of fine flannel or of calico, for there are many mothers who would feel quite unhappy if their children were not supplied with dainty white calico drawers trimmed with embroidery. Indeed, if ever there was a time when a mother was to be excused for substituting calico for flannel in a child's garment, it is at this period, and in the case of drawers. As every mother knows, it is most necessary to have garments which can be changed frequently and washed very often. Flannel does not lend itself to this treatment. No matter how carefully it is washed, white flannel after a time looks yellow, and red flannel looks ugly. Many mothers get over the difficulty by providing two sets of drawers, calico under flannel. This is by no means a bad plan, and the flannel drawers can be made very pretty by embroidering the edge with silk twist. At any rate, flannel drawers are a great preventive of cold. Delicate children can scarcely dispense with them, and even healthy children are much more likely to continue healthy if they wear them. The illustrations show the garments both open and made up, and the shape will be evident to any one accustomed to the use of the needle. Drawers made from this pattern, though so simple, wear well, and are extremely comfortable. It would be difficult to find a better shape for small children. A garment more simple even than this one, however, can be produced from a strip of material of the requisite length and width, plainly doubled, with a slope cut off at each side for the legs, as in Fig. 3, and with the two ends gathered into bands. The drawers are fastened by means of the button-holes and buttons placed on the small stays underneath the petticoat. These drawers could be made with three-quarters of a yard of wide flannel or of calico, and seven-eighths of a yard of embroidery.

Flannel Petticoats.—If the outer garment were of flannel, one of the petticoats shown in Fig. 4 would be sufficient. If, however, the outer garment were of muslin or a thin material, both petticoats would be needed, especially in cold weather. Many



Fig. 3.—DRAWERS FINISHED.

mothers greatly dislike dresses made of flannel; and even when this is not the case, it is a convenience to have a petticoat with a stay-bodice, because upon the lower part of the stay, which lies underneath the band of the petticoat, buttons can be placed, to which drawers and garters can be fastened. Thus everything is kept tidy; so that if one of the petticoats in Fig. 4 were dispensed with, it should be the second. With the first under-flannel every woman will be familiar, and full directions for making stays and stay-bodices have been given on p. 373 of Vol. I. When the first petticoat only is worn, many mothers line the stay-bodice with flannel. Both garments are made with the bodice separate from the skirt, because, until a child is older, it is most unadvisable that bodice and skirt should be all in one. The second petticoat has two widths of flannel in the skirt. The bodice is twelve inches deep from the top of the shoulder to the waist, while the neck and armholes

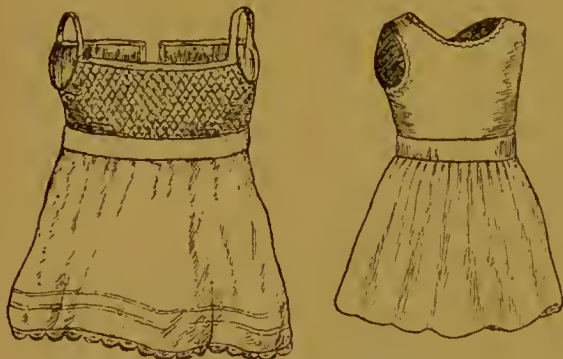


Fig. 4.—FLANNEL PETTICOATS.

are piped; it is buttoned down the back, and drawn together top and bottom with running strings.

Dress.—Fig. 5 is a dress for either a girl or a boy. At this age boys and girls are dressed nearly alike; any difference there may be between them is a matter of taste. The skirt of this dress is made of two straight pieces gathered into the yoke-pieces back and front on the right side, and a neat band of the material is placed over the gatherings. This band can, if liked, be feather-stitched. If a frill of embroidery is permitted round the bottom of the dress, it should be whipped, so as to have a little fulness in it. A dress of this description looks very pretty made of nainsook or of cashmere, with a plain yoke and a little smocking underneath. A width and a half of cashmere would be needed for the skirt, and a coloured sash would brighten the costume.

The little **Overall** or **Pinafore** shown in Fig. 6 is French, and it looks very quaint and pretty. It may be made of pink zephyr, and in



Fig. 5.—DRESS.

warm weather answers as a substitute for a dress. Two widths of wide zephyr are in the skirt, and there is a broad hem at the bottom. It takes two yards of wide zephyr for the garment; or, if a broad sash of the same material is desired, two and a half yards will be needed. The seams are under the arms, and a small piece is cut out to make the under part of the armhole. Both the front and the back of the overall are gathered and put into bands one and a half inches deep when doubled. The front band is seven inches across the chest. The two bands at the back are four inches across; so that, when the garment is buttoned, the back is the same width as the front. The little shoulder-bands, which join the front to the back, are cut four inches long; so that, when the turnings-in are taken, they are three and a half inches across. One end of this band is sewn to the back, another end to the front at each side. These bands can be feather-stitched, or trimmed in any fanciful way, while the wristbands must be made to match. The sleeve is put into the shoulder-band with the fulness at the top.

Flannel Nightgowns.—It is perhaps more necessary that nightgowns should be made of flannel at the period of life now under consideration than



Fig. 6.—OVERALL.

at any other time. Children who are strong and active are apt to throw their arms out of bed, or kick the bedclothes off, when they feel hot. If clad in flannel, they will not take much harm; but if clad in calico or linen, they are very likely to catch cold. Patterns for nightgowns have already been given.

The extremities of children must be kept comfortably warm if the children are to be healthy. On this account it is necessary that, as soon as a child begins to wear short dresses, he should also begin to wear stockings that will reach above the knee. The custom of leaving the legs of little children bare is as absurd and mischievous as was the custom—now, happily for children, more honoured in the breach than the observance—of letting their arms and necks go bare. Exposure of this sort, permitted in the child for the sake of appearance, has, in many cases, resulted in the weak health of the adult.

Coverings for Legs and Feet.—It is not, however, enough that children's stockings should reach above the knees; they must be of wool, both for winter and summer, if they are to be perfect. Shetland-wool stockings are excellent for children; they can be readily washed, and are both soft and warm. They should fit exactly. If too small, they cramp the toes; if too large, the fulness has to be folded over, and this is very uncomfortable. Knitted stockings are to be preferred to all others, because they adapt themselves to the shape of the foot. Garters should not be worn by children. They produce cold feet by impeding circulation; yet it is quite easy to keep stockings tidy by fastening to the leg thereof a loop, which can be passed through a tape attached to a button on the band of the under-petticoat.

The condition, quality, and size of the boots and shoes of children are details of great importance. Mothers who have to contrive to make both ends meet, very often find that boots and shoes constitute a serious item of expenditure, and very naturally they wish to prevent undue outlay in this department. They make a serious mistake, however, if, in order to economise, they insist upon children wearing shoes or boots which they have outgrown, and which, consequently, pinch their toes. Pressure of this kind in childhood produces corns and bunions, which may be troublesome and painful at intervals through life. It has to be remembered that a child's foot has to grow; and therefore, unless the child is to be crippled, there must be room for the joints to be free. Yet too large boots and shoes are to be avoided, because they are cumbersome and cause blisters.

Dr. Chavasse says that the way in which a child's toe-nails are cut has much to do with keeping his feet in good condition. Here are his words:—"It

is impossible for a stocking or a shoe to fit nicely unless the toe-nails be kept in proper order. Now, in cutting the toe-nails there is, as in everything else, a right way and a wrong way. The right way of cutting a toe-nail is, to cut it straight—in a straight line. The wrong way is, to cut the corners of the nail—'to round the nail,' as it is called. This cutting the corners of the nails often makes work for the surgeon, as I myself can testify. It frequently produces growing-in of the nail, which sometimes necessitates the removal of either the nail or a portion of it."

Head-Covering.—A child's head-covering should be light and loose, to admit of the escape of perspiration. Too often we find that mothers, who would be most unwilling to supply their little ones with long stockings or high-necked dresses, still insist most strongly upon their children wearing huge closely-fitting hats or bonnets, which prevent the escape of perspiration, and must be most harmful. "The head cool, the rest of the body warm," is an excellent health maxim, which mothers ought to learn by heart. True it is that, when the sun's rays are very fierce, a large hat is excellent, because it is a protection from the heat, and a safeguard against sunstroke. When cold and bitter winds blow also, it is an advantage to have a hat which protects the ears. Excepting under these circumstances, however, a warm hat is injurious.

Creeping-Dresses.—The advantage of letting a child creep on the floor, thus strengthening its limbs by exercise, has already been urged. Many mothers object to the practice, because the baby dirties and crushes his little dresses so completely when he thus disports himself. The difficulty may be overcome by providing the small athlete with a couple of American creeping-dresses, and keeping one of these at hand, ready to slip on over the other garments when baby is put down, taking it off when his time for exercise is passed. Creeping-dresses are simply straight slips made of rather dark calico. The skirt is about a yard long, and is finished with a broad hem, in which is run a wide flat elastic. When the baby is about to creep, the skirt is put on, and the elastic is brought up under the petticoats, so that the skirt encloses the latter, as it were, in a bag. Thus the baby's clothes are kept perfectly clean.

Food.—The food to be given to a child depends of course upon the age at which he is weaned. In these days few babies are nursed until they are ten months old; yet if the mother is strong and well, and has plenty of milk, and if the baby continues to

thrive, there is no reason why this should not be; indeed, thirty years ago a baby who had to give up his mother's milk before he was twelve months old would have been regarded as an object for pity. Nevertheless, the time at which a baby should be weaned depends so much upon varying circumstances, that it is impossible to lay down a rule on the subject. In any case, it is always best and easiest, when conditions are favourable, that a baby should be weaned gradually. As the time draws near for the natural food to be abandoned, the little one should be taught to drink out of a cup instead of the bottle, and he should be habituated to the use of a spoon. First one meal, and then two meals, a day of artificial food should be substituted for the usual supply, until at length the breast is kept for night use only. After a while, even in the night, if food is wanted at all, a little warm milk may be considered sufficient, and after this it may be left off altogether as soon as possible. At any rate, both for mother and child, a gradual weaning will be much easier and less disturbing than a sudden violent change.

Many mothers are most anxious to begin to give their children meat, and they will commence at a very early age to give gravy, or beef-tea, or even to mince meat finely for the child, thinking that a good deal has been accomplished if he can be made to swallow solid food. This is a mistake. Until a child is about twelve months old, and has developed teeth, it is safest to keep to the food recommended in the chapter on infancy, and milk should still form the chief article of diet. When one year old, milk may be given undiluted, and his diet may be altered until he gradually takes various kinds of food. He should not, however, discontinue the milk. Until a child is four or five years old he should be accustomed to take from two to three pints of milk, in one form or the other, every day. In the twenty-four hours, each child should take at least a quart of good, fresh, new milk. When milk can be obtained good and pure, it is impossible to exaggerate its value. As Dr. Chavasse says: "There is no substitute for milk. Milk contains every ingredient to build up the body, which is more than can be said of any other known substance. A child may live entirely, and become healthy and strong, on milk, and on milk alone, as it contains every constituent of the human body. A child cannot live on bread alone, but he may on milk alone. Milk is animal and vegetable—it is meat and bread; it is a fluid, but as soon as it reaches the stomach it becomes a solid—solid food. It is the most important and valuable article of diet in existence. It is a glorious food for the young, and should never in any case be dispensed with. An ignorant mother will often

complain because, when the child is sick, the milk curdles, that it is a proof milk does not agree with him. If it did not curdle at those times, it would indeed prove that his stomach was in a wretchedly weak state; she would then have abundant cause to be anxious." The child who objects to milk should be coaxed to like it, and there are many children who refuse fresh milk who like it boiled and slightly sweetened with sugar; while if milk really does not agree, it may be made more digestible by mixing it with lime-water (two tablespoonfuls of lime-water to half a pint of milk).

Variety of diet, so long as it is wholesome and simple variety, is very good for a child, not for an infant; an infant's diet should be little varied; but a child's should be much varied. A mother, therefore, should tax her ingenuity to give her child pleasant changes, not only of food, but of modes of cookery. Some mothers, if they find a kind of food which seems to suit the child, and which the child enjoys, will repeat it again and again, and day after day. This is a great mistake. A child will be better nourished if he has a change of diet than if he has most excellent food continually repeated.

A little fruit and a variety of well-cooked vegetables should form part of a child's diet. Such food helps to purify the blood, and to make the bowels act regularly. It is much better when this end can be attained without calling in the aid of the doctor to administer a dose, and it is wonderful how much may be accomplished by simple means if the mother will give attention to the subject. The formation of a regular habit has a great deal to do with this, but a mother can help to make her child healthy by supplying stewed fruit and a little jam occasionally. It is worth remembering that there is no more effectual way of securing regularity in this direction than by giving a child fruit first thing in the morning, before breakfast. The mother who has difficulty on this point could scarcely do better than soak a fig in olive oil, and give it to the child as soon as he wakes in the morning. The sweet oil is not as distasteful to a child's palate, nor does it cause pain, as a dose of physic would; yet gently and naturally it answers the same purpose.

Between meals a child should, as a rule, be allowed to drink nothing but water. Also, it is important that eating between meals should be discouraged amongst children. Some children continually complain of being hungry, and are constantly asking for food. The consequence is, that when meal-times come round, they have no appetite, and are fastidious and particular. Mothers who permit this, forget that the stomach needs rest as well as the other organs, and that weakness of digestion, with all its attendant ills and miseries,

may be more easily produced than cured. If a reasonable time—four hours, that is—be allowed to elapse between meals, a child may very safely be permitted to dispense with food between whiles. If, when the proper time for taking food arrives, he will not eat, there is something wrong, and he should be watched and cared for; yet he should not be pressed and urged to take food for which he has no appetite. Food taken under these circumstances is very likely to produce mischief.

Mothers should see that children take their meals in a leisurely way. To hurry over food is very likely to cause indigestion. Also, when the teeth are developed, the children should be taught to masticate the food. Mastication is the process ordained by Nature for preparing the food for the digestive organs. A child who is accustomed while young to masticate his food well, is much less likely to suffer from “biliousness” and “liver troubles” in maturity than is one who swallows the food almost entire.

Very often, when a child will not take food, the reason is that there is something wrong with one of his teeth, which makes it painful for him to masticate his food. Mothers do not always think of this; yet during childhood, whilst teeth are coming and going, it is to be expected that irritation and pain will frequently occur. Very often a few minutes’ attention will put a stop to mischief which, if left, will lead to much harm.

Mothers should beware how they give sweets to children. “I consider sweetmeats as so much slow poison,” says Dr. Chavasse. “Such things cloy and weaken the stomach, and thereby take away the appetite, and thus debilitate the frame. Moreover, many sweetmeats are coloured with poisonous pigments. A mother surely is not aware that when she is giving her child sugar confectionery, she is in many cases administering a deadly poison to him.” Sweets injure the teeth also, and cause toothache; while, according to an authority (Mrs. Barnett), when constantly indulged in during childhood, they lead to drunkenness in later life. Says this lady:—“By constantly taking food the stomach becomes accustomed to being stimulated. By the time that the age of sugar plums and apples is past, the stomach has got so used to continual feeding, that it craves for sustenance, and then the glass of ale is taken. Big trees grow out of little seeds. By watchful care over the children’s cakes and goodies, or even the oft asked-for drink of water, we each one may do something to prevent this small seed of a bad habit growing into a sin.”

Many mothers give sweets to their children when they want to give them a treat, or to bestow a small reward for good behaviour. It is a pity to associate

in a child’s mind the idea of enjoyment or reward with eating and drinking. We cannot wonder that children grow up to be gourmands, when they are taught by their parents to regard the gratification of the palate as of so much importance. It would be much more sensible to let rewards take the form of books or pictures. Then pleasure would be associated with intellectual gratification instead of the gratification of the palate.

Last, but not least, children, if they are to be healthy and strong, must have thoroughly plain and simple food. For breakfast may be given milk and water, bread and milk, or porridge of oatmeal boiled in water, and afterwards mixed with milk; also bread and butter, with good jam or marmalade, will be most suitable for this meal. “The staple food for breakfast should be milk, oatmeal porridge, bread and good butter, and Devonshire cream. A little white fish, or eggs, or bacon, especially fat bacon, may be allowed also. Fruit is also good for breakfast, such as apples, oranges, grapes, peaches, plums, pears, and strawberries.” For dinner there should be mutton or beef, with a little fat; also poultry, and a little light soup now and again. Children should always be encouraged to take salt with their food; the use of salt has many advantages. They should also be trained to take dry bread and potatoes with dinner, and some other vegetable, such as cauliflower, parsnip, broccoli, spinach, stewed celery, peas, beans, cabbage, and tomatoes. A light milk pudding of rice, sago, tapioca, custard, or stewed fruit, with a very little cream, is also excellent. This, of course, would be the principal meal. Tea, of course, will be like breakfast. Supper would consist of a little milk with dry biscuit, or milk-toast. It is a great misfortune when children are allowed to fancy that they cannot eat this, that, and the other. If the mother is careful to provide wholesome food, the child will be safe in her hands. And when we remember that “food is converted into blood; that, if food is good, blood is good; and that every part of the body is built up by the blood,” we shall scarcely be inclined to say that the choice of a child’s food is a subject of little importance.

Cleanliness and Bathing.—As the child grows older and stronger the same rules should be observed with regard to bathing which were followed when he was an infant. If it can be managed, it is a good thing for children to have a bath both night and morning. They will not, however, need to be thoroughly soaped and washed twice a day; on one of these occasions it will be sufficient if they have the water squeezed over the body from a large sponge and are then quickly dried. Children usually enjoy more refreshing sleep if they go to bed thoroughly

clean, while the morning bath is very refreshing and health-giving. Where, however, there are several children in a nursery, mothers often find that it makes a great deal of work to have them all bathed both night and morning. Under these circumstances, a child would not suffer who was thoroughly tubbed in the evening, and had his face and hands washed in the morning. Some doctors, however, say that it is best for a child not to be washed twice, and that the morning bath is to be preferred to the evening bath; other doctors have a great belief in frequent tubbing. Mothers on this matter must use their judgment. Of one thing they may be very sure—that, if bathing is to be beneficial, it must be judiciously carried out. If there is fear that the child during bathing will not receive proper attention—that he will be put into water which is not of the right temperature; that he will be allowed to stand about after leaving the bath, instead of being dried thoroughly and immediately; or that he will be put into the bath when cold, or when perspiring freely—it would be far better to be content with one bath a day than to subject him to these conditions. A bath given under the supervision of a responsible conscientious person is likely to be of great service; a bath given by a careless, indifferent person may do incalculable harm. There is no part of the care of children which calls for the mother's personal superintendence more than this.

Much difference of opinion exists as to whether a child should be bathed in cold or in warm water. Here, also, there is room for the exercise of judgment; no absolute rule can be laid down. If a child is strong, and if, after being bathed, he speedily gets into a warm glow all over, cold water will suit him best. If a child is delicate, if he dreads the cold water, and does not quickly get warm after leaving it, it is wisest to add a little warm water, to take the chill off. But in no case should the water be warmer than the body when the latter is moderately and comfortably warm. To wash a child in hot water is likely to weaken him, and render him susceptible to cold.

The head and the hair of a child should be carefully watched and cared for. In many children scurf is very liable to accumulate about the roots of the hair, and if this is left unchecked the unpleasantness may spread behind the ears and cause both discomfort and annoyance. During infancy and childhood, therefore, a child's head should be washed every day, before the child is placed in his bath, by means of a sponge and a very little pure soap. After he is in his bath, the sponge, with plain water, may be squeezed on the top of the head, to rinse the soap well out of the hair, while the head should be dried with a soft towel, and brushed with a soft brush,

but not combed. It is much easier to keep a child's head in good condition from the beginning than it is to cure it after it has gone wrong. In all cases, washes, pomades, and everything of the kind should be avoided; there is no knowing what harm they may do. Very little soap even should be taken, and that should be of the purest quality. Castile soap is generally believed to be less irritating than any other.

From the earliest months of childhood, children should be taught to use a tooth-brush night and morning. It is as important that the first teeth should be kept clean as it is that the permanent teeth should be cleansed, and children would suffer much less than they do from toothache, and their teeth would remain sound much longer if they were freed from the small deposits of food which are sure to be found after eating, and which, if left, decay and cause the teeth to decay. Besides, if a child is early accustomed to use a tooth-brush, the habit becomes second nature, and the practice of brushing the teeth is continued through life. It is better not to use tooth-powder or paste for a child's teeth. A small soft brush, and a little salt and water, or soap and water, with thorough rinsing, will be all that is required.

Not only the teeth, but the nails of children, both on fingers and toes, should be trimmed and cleaned daily. There is, indeed, no greater sign of refinement than to have neatly-trimmed finger-nails, while carefully-cut toe-nails make walking easier and prevent pain.

Sleep.—Regularity of sleep is as important for a child as for an infant. Until a child is two years old he should be left to sleep in the middle of the day, and when he is no longer an infant he may be put to bed awake without difficulty. Even until he is four or five years old, if it can be managed, it is a good thing for a child to take a little nap in the daytime, as day sleep quiets the nerves, rests the limbs and spine, and does good every way. A child usually sleeps better at night who can take a little sleep in the middle of the day. Yet, whether the midday sleep is possible or not, a child should go to bed at six o'clock in winter and seven in summer: when, if in good health, he will sleep till it is time to rise next morning. If his bed is in a well-ventilated airy room, away from noise; if it is furnished with a mattress (not a feather bed); if the sleeper is made comfortably warm with blankets, a child cannot be better than when he is sleeping; and he needs an amount of sleep which, to a person unaccustomed to children, would seem absurd.

A child should on no account be allowed to sleep in the same room which he occupies during his

waking hours; therefore, to use the day nursery as the night nursery is a very mischievous arrangement. When he sleeps in a separate apartment, the child's resting time affords a welcome opportunity for opening the nursery window top and bottom, and thus thoroughly airing the room. Many mothers like to let the child sleep in the day nursery because it is warm, and they fear a cold chamber. On this subject it is well to mark the words of Dr. Chavasse. This most sensible mothers' counsellor says: "A nursery is usually kept too hot; in the winter-time the temperature should not exceed 60 degrees Fahrenheit. A good thermometer should be considered an indispensable requisite to a nursery. A child in a hot, close nursery is bathed in perspiration; if he leave the room to go to one of lower temperature, the pores of the skin are suddenly closed, and a severe cold, or an inflammation of the lungs, or an attack of bronchitis, is likely to ensue. Moreover, the child is weakened and enervated by the heat, and thus readily falls a prey to disease. As to the night nursery, I do not advise that there should be a fire in this room, unless the weather be intensely cold. I dislike fires in bedrooms, especially for children; they are very enervating, and make a child liable to catch cold." Dr. Chavasse also quotes with approval some remarks which appeared in the *Siccle*. "Generally speaking," says the writer, "during winter, apartments are too much heated. In bedrooms, and particularly those of children, the temperature ought to be maintained rather low; it is even prudent only rarely to make fires in them, especially during the night. Persons who sit in rooms too much heated are liable to cerebral (brain) congestion, and to pulmonary (lung) complaints." To the same effect wrote Mrs. Craik, the author of "John Halifax, Gentleman." In an article which appeared in *Good Words* this writer said: "I have not a word to say against the wretched city poor. God help them! they cannot get fresh air. My complaint is lodged against higher sinners; people who ought to know better; mothers of families, who keep their children in almost air-tight nurseries; mistresses of households who allow their young people to sit in the same parlour all day, without once changing the atmosphere thereof." Mothers who want to have strong, healthy children must act on the hints here given. They should realise that "good air is as necessary to a child's health as is wholesome food, and that air cannot be good unless it is frequently changed."

A very effectual way of securing healthful sleep for a child is to let him go to sleep at a regular early hour every night, as mentioned on the last page. Some mothers very foolishly let children stay up until two or three hours beyond this, with

the idea of letting them get tired out before they go to bed, that they may sleep well; others let them go to bed one night early, another night late, according to circumstances. Both practices are mistaken. The child who gets tired out before he goes to bed is in danger of missing restful sleep, through his brain being over-weary, and his nerves overstrained. So a child who goes to bed at irregular hours does not become sleepy at a certain time—a fruitful cause of annoyance. Regularity in this respect is highly conducive not only to good health but to good management.

As children leave infancy behind, and grow older and more active, mothers are often made anxious because they throw off the clothes in their sleep, and thus run a risk of taking cold. One way to prevent mischief is to let the child wear flannel nightgowns; but even flannel nightgowns do not make the sudden change of temperature thus produced beneficial. Mothers who are in difficulties on this account would do well to provide themselves with the simple bed-clothes fasteners, of home manufacture, which were recommended some months ago, in the magazine called *Babyhood*, by two trans-Atlantic correspondents. The first was made as in Fig. 7. Take two pieces of ribbon, each three-



Fig. 7.

quarters of a yard long; to the middle of each sew a piece of silk garter elastic, the length of which must be equal to the width of the child's pillow. To the loose end of the elastic sew a clasp, such as is used to support children's stockings at the knee. Tie one ribbon round each head-post of the crib, and, when the child is settled for the night, secure the covers on either side with the clasps, allowing plenty of room under the covers for the little one to turn. Of course it will be seen that two of these arrangements will be needed; one for each side of the cover.

The second arrangement is equally simple. Take about fourteen inches of elastic, and sew one end very near the top edge of the blanket at one side; on this sew a button of good size. Do the same on the other side of the blanket, leaving between almost the width of the crib. On the other end of the elastic add a small piece of silesia, matching the elastic in colour, in which make a button-hole. To secure the sheet as well, sew two inches of linen tape on the hem to match the places in the blanket where the elastic is. When used, slip the button-hole end of the elastic through the tapes, pass it round

an upright of the bars of the bed, and button. Being elastic it will give, and the child can turn without throwing off the covers. (Fig. 8.)

Many mothers, besides using the bed-clothes fasteners, put a running string in the bottom hem of the child's flannel nightgown, draw it, and tie it after the child is in bed, thus keeping the legs and

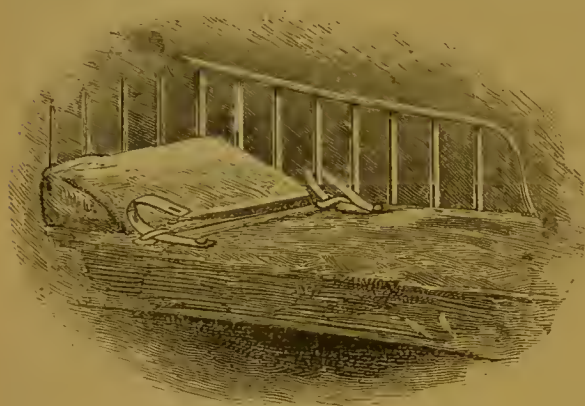


Fig. 8.

feet warm. When this plan is adopted, the nightgown must be of a good length, otherwise the child's legs will be cramped.

Exercise.—Enough has been said of the importance of fresh air for little ones in the chapter on infancy, and it is little likely that the mother who has so realised the importance of fresh air that she has sent her infant out whenever the weather permitted, will change her tactics as the child grows older; it would be a sad misfortune for the child if she did this. A child would be all the better if he could live in the open air during favourable weather, and under these circumstances it is scarcely possible for him to be out too much. Even in unfavourable weather, if he be strong and hearty, if he be well wrapped up in flannel, and if he have plenty of wholesome food, a child will be all the more likely to keep strong if he go out for a little while every day in the care of a conscientious and sensible person. When children take harm through going out, it is usually because they have been allowed to stand about at draughty corners, or to sit in the perambulator with the sun beating down upon their heads. If a child is old enough and strong enough, it is better that he should walk when out of doors, than that he should be in a perambulator, because thus he can take exercise and keep the blood circulating through his veins. Yet he should not walk too quickly, or remain on his feet until his little legs are tired. The fact is, that, to secure the full advantage of the open air for a child, what is wanted more than anything is the exercise of common sense. Mothers

usually know quite well what is good and what is harmful for their children in this direction; and when mothers can accompany the nurse, there is little room for fear. The children who suffer and who receive harm when out of doors, are the children left in the hands of careless, ignorant young nurses, who are anxious only for their own pleasure. The mischief which is perpetrated daily by heedless persons of this sort is incalculable; and it is impossible to traverse the districts frequented by children and nursemaids without being made painfully aware of the same. There is no way in which a mother can do more to advance the well-being of her child than by either going out with him herself, or securing the attendance of a faithful companion.

It is not easy to say how often or how long a child should be sent out into the fresh air. In favourable weather the more he is out, the better. In bad weather he should have his outdoor garments put on, and be set to run about in a large room with the window open. While thus occupied, the windows of the nursery he has left may be thrown open top and bottom, and thus the room be thoroughly aired. Of course it will be understood that fresh air must not be taken in this way when the rain is so heavy that it would be driven into the apartment, or when a "draught" could not be excluded. It is more difficult to preserve a child from draughts indoors than out of doors, yet a "draught" and "fresh air" are quite different, and it is not at all necessary for a child to brave the one because he enjoys the other.

The Nursery.—The children's nursery should be a large, lofty room, well ventilated; prettily but plainly furnished, and fitted with everything needed for comfort. Very often the nursery is at the top of the house. There is no objection to this arrangement if the mother is strong and active, and able to get up and down stairs constantly and readily, also if constant supervision is kept over the children; indeed, under these circumstances, having the nursery at the top of the house is an advantage, because the air there is more likely to be pure, and the children will be able to play and make as much noise as they like, without disturbing their elders. It is a pity when children are continually told to "hush," because jumping, romping, and laughing are natural to the young. Yet it is injurious to the morals if noise is made when it disturbs others. It is, however, most undesirable to have a nursery at the top of the house when, on account of the distance, the mother is not likely to spend much time there, and when the children are in danger of being left chiefly to the care of a nurse, or, it may be, left much by themselves. Under ordinary circumstances the mother is

the rightful guardian of the nursery, and no one can properly fill her place. Therefore, in choosing this apartment, its easiness of access by the mother should be one of the first requirements. At any rate, if, as is frequently the case in modern houses, a choice has to be made between a room at the top of the house and a room in the basement, the former is to be preferred, because the air of a room below the ground level cannot be dry and pure, while unpleasant odours from the kitchens and offices are very likely to penetrate there. Moreover, rooms in the basement are not unfrequently a little damp; and damp, it goes without saying, is most harmful to children. The beginning of what has developed into serious disease has often been caused by it.

Having fixed upon a room for the use of the children, the first necessity is to provide for safety therein. The window, therefore, is the chief consideration. This should be large, to admit plenty of light; lofty, so that the window can be opened at the top, occasionally even while the children are in the room; and low, so that they can look out without difficulty. In a perfect nursery the outlook from the window will be a pleasant one; because a child's impressions of life, and the tone of his mind, are influenced by what he sees beyond the room where so much of his life is spent. This detail can, however, rarely be made the subject of arrangement. The window should open easily top and bottom, but the woodwork should be made to fit well, so that draughts cannot enter through the crevices thereof. On account of imperfection in this direction many nurseries are unhealthy. Careless persons who are most anxious to keep up a large fire so that the children may be *warm*, will still endure a window which is so badly made that chinks of light can be seen between the mouldings and the frame. The consequence is that when a child stands near this spot, he stands in a direct draught, and is liable to all the injury ensuing therefrom. Last, but not least, there should be rails securely fixed, to prevent accident in case the little ones should look out of window when the sash is raised. Mothers will say, "But my children never will put their heads out of window. Such conduct is inconceivable." To this we should reply, "It is as well to be on the safe side." The number of accidents which have occurred from neglect of this detail should make mothers afraid to dispense with these most valuable safeguards. Equally necessary is it, where there are young children, to have a swinging gate fixed either in the nursery door, or at the top of the stairs outside the nursery door, which gate should fasten with a latch placed outside, in a position which the little ones cannot reach. A provision of this kind is a great security.

One way of making a nursery pleasant to the children is to keep the windows bright and clean, so as to let in the light and the sunshine. We are all influenced by the condition of the windows of the room in which we live, and children are unconsciously as much influenced as their elders. Another way is to have the windows fitted with shades, especially if the room gets the midday summer sun. The fierce rays of the summer sun beating through glass upon the heads of poor little children who are fastened into the room by a gate which they cannot open, is a spectacle too painful to contemplate. If the nursery is at the hot side of the house, children should, if possible, change their nursery in the hot part of a hot day, and sit in a cool room. Children are very dependent upon sufficient warmth; no one wishes to deny that; but yet there is no surer way of making them languid, irritable, and ailing, than to shut them in a close, hot room.

Turning away from the window, the next thing to be considered is the fire. It is all the better if the nursery range is of the sort which cannot be employed for cooking purposes, because business of this sort should never be carried on in the nursery. Foolish nursemaids who are left to themselves will frequently conduct most complicated culinary operations over the nursery fire, and it follows that the purity of the atmosphere is destroyed, and the air of the room is laden with malodorous perfumes. The kitchen, not the nursery, is the place for cooking. Equally inappropriate is it for a nursery to be turned into a laundry. In some nurseries an extra rod is sometimes fitted outside the fire-guard, for the purpose of airing linen. The arrangement is most objectionable, and should not be allowed. It is, however, most necessary to have a guard before the fire as a preventive against accident, and this guard, whilst acting as a protection, should not obscure the fire. Perhaps the most satisfactory guard for a nursery is one which is fixed to the sides of the chimney-piece, and acts as fender as well as guard. It should be over two feet high, and may have a steel or brass rail at the top, the brightness of which helps to give the room a cosy look. Some nursery fenders have a curved top, fitted on a hinge which falls backward. Such a guard is a great protection against accident by fire.

Safety and comfort being secured, the more simply a nursery is furnished the better. Dr. Chavasse, a great and much respected authority on the management of children, is strongly opposed to having a nursery carpeted. He says: "A carpet harbours dirt and dust, which dust is constantly floating about the atmosphere, and thus making it impure for the child to breathe. The truth of this may be easily ascertained by entering a

darkened room, where a ray of sunshine is struggling through a crevice in the shutters. If the floor of a nursery must be covered, let drugget be laid down, as this may be taken up and shaken every morning." Dr. Chavasse is, doubtless, quite right, and a carpet is a harbourer of dirt and dust, and yet mothers will feel that a nursery floor must be covered for the sake of the warmth and comfort. Linoleum, oilcloth, and matting, are too cold for a nursery, and the small rugs which look so pretty in modern rooms cause uncertain little feet to trip, and lead to many a tumble. A carpet, therefore, there must be, but it need not be fitted all over the room. It may be simply a square, to lie in the middle of the room, which can be frequently taken up and shaken; and the floor all round may be stained to the width of a foot and a half, the stained portion being dusted every morning. With this arrangement both cleanliness and warmth may be attained, and all difficulties may be surmounted.

The wall of a nursery should be prettily papered with a tasteful paper, entirely free from green. The dangers associated with green paper-hangings have been so frequently pointed out that many high-class manufacturers do not make green papers; and nursery papers are produced, into which illustrations of the nursery rhymes are introduced, entirely free from green. These picture paper-hangings are excellent. If a plain paper is preferred, it is well to have some good coloured prints on the wall, and these may now readily be bought at a reasonable price. With regard to these pictures, however, it will be well to remember Dr. Chavasse's words. This gentleman says: "If you have your nursery walls hung with paintings and engravings, let them be of good quality. The horrid daubs and bad engravings that usually disfigure nursery walls are enough to ruin the taste of a child, and to make him take a disgust to drawing, which would be a misfortune. A fine engraving and a good painting expand and elevate a child's mind. We all know that first impressions are the most vivid and the most lasting."

For the rest, as already said, the more plainly a nursery is furnished, and the less furniture there is in it, so long as necessaries are provided, the better. It is always well when there is a good-sized cupboard in the nursery for the reception of toys and books belonging to the little ones. This cupboard the children themselves should be expected to keep in order as soon as they arrive at a reasonable age. Mothers and nurses should remember that it is easier to implant habits of order in four years of age than it is in twenty-four. A couch or sofa is also an acceptable addition, useful in cases of slight indisposition, or when children are tired. A good chair

for nurse, also several low chairs and table, will be required. Concerning the last named articles, Dr. Squire says:—

"Children are sometimes seated on insufficiently raised seats, and so have their faces too near the table. In nurseries, the ordinary tables, both for meals and for books or pictures, should be somewhat less in height than the average dining-table. The nursery table should be big enough to set out an ark or a toy farm-yard. It should not be more than two feet three inches high. A foot-ledge can be fixed across one end for the younger children; a cross-bar joining the table-legs may be used by others. Dining-tables are nearly two feet six inches high. The little chairs in a nursery should be eight inches high, with seats nine or ten inches square; others measuring twelve or fourteen inches in each direction are useful for children of all ages. The infant's chair for sitting at table is usually twenty-four inches high at the seat, with a foot-rest five inches below that. A child seven or eight years old requires a chair twenty inches high, with a midway foot-rest. Some dining-chairs are one foot six inches—not high enough for young people under twelve years of age."

Enough has already been said in another chapter about the sleeping accommodation provided for infants and children. It may be remarked here, however, that though, under certain conditions, it is an advantage for the day nursery to be at the top of the house, it is seldom wise to put the night nursery there. The night nursery should be so situated that if a child cries, his cry can be heard. Unless this is the case much mischief may ensue. It is important, also, that no sink or cistern should be on the same floor as the nursery; and it is always desirable that the day and night nurseries should be on separate floors, so that the one can be thoroughly aired without the other being made draughty.

The character and conduct of nurses and nursery-maids have been dealt with in another part of this work. (See Vol. I., p. 333.) It is impossible for a mother to be too careful about the character and behaviour of the person to whose care young children are entrusted. If fathers and mothers realised what a critical period childhood is, they would feel that they could not do too much to secure for their little ones healthy conditions of mind and body, and to remove all hindrances to free and natural development of heart and brain. If parents are in the future to find in their children joy, and not sorrow; if their children are to be a blessing, and not a curse, to society, the steps which are to lead to a happy result must be taken during childhood. How much may be accomplished by judicious training, careful attention, and watchful love, will not be known until years have passed away.

GARDENING FOR APRIL.

Cleaning.—With the advent of spring and finer weather, the garden will become a greater source of attraction; more time can consequently be spent in it with enjoyment and comfort. Every effort, therefore, should be made to keep the garden as attractive as possible, by cleanliness in every way. After the wintry season, there will be found some shoots on the evergreens that either show the effects of past cold or are possibly already dead from the same cause; these should be removed with a sharp knife or pruning-scissors as far back as any decay is apparent. The *Euonymus*, which is most useful in small and medium-sized gardens, is very apt to be caught by the frost in this manner, but with warmer weather will soon recover its wonted bright appearance. (This shrub is one of the very best that can be planted in small gardens near the sea-coast, in the southern counties of England. It thrives well in a confined space, and will continue for years in good condition.) The borders of shrubberies should be kept lightly raked over, to remove fallen leaves and check the weeds; where the latter are seen in any quantity, the hoe should be used previously. The paths will now take more frequent rollings, with much advantage, especially after a shower of rain. They should be gone over previously with a light broom, to remove any litter that may be upon them, and any weeds that are making an appearance. The flower-beds that are occupied with spring blooming plants should also have attention in the removing of any decaying foliage of the past season, now that younger growth will quickly take its place.

Hardy Plants for Borderings to Flower-Beds.—There are several such which are a distinct advantage to any garden, and of which more might be grown than are frequently to be met with. *Sedum glaucum*, with its glaucous gray colour, is a most useful and accommodating plant, of very easy cultivation. It makes an excellent edging next to the grass, with which it contrasts well, and requires but little attention when it is once fairly established. For beds that are margined by gravel walks, *Sedum aere* will be a better choice; this is as green as grass itself, for which it is likewise an excellent substitute in places where it is difficult to get grass to grow, or where it is not an easy matter to keep it cut. These two Stone-crops (for such is the name by which they are generally known) should be planted at once to obtain a good edging to flower-beds for the coming summer season. They produce the best effect when an edging of about six inches in width is made; or they can be used as a groundwork, of

various widths, in working out a bed of geometrical design. The soil on which they are to be planted should not be of too rich a character; it should be stirred up and then pressed down firmly, to obtain a smooth and even surface, which should slope gradually towards the exterior of the bed. To obtain a width of six inches, it is best to plant two rows three inches apart, and about the same space from plant to plant. Where there is a fair stock of either kind, it can be made to go a long way; it is not necessary to have any roots to the shoots at the commencement of forming the edging, as nearly every piece may be relied upon to grow. A few growths should be gathered up in the hand and dibbled into the soil; then pressed down firmly, and watered when completed; repeating the latter operation at frequent intervals until fresh growth commences. These *Sedums* should be planted afresh every season; otherwise they have a tendency to flower freely, and thus exhaust their growing powers.

Sempervivum californicum (the House-leek) also makes a good dwarf edging; plants of this should be taken up, and have all the young plants removed from around the larger one. These should then be assorted, and planted as edgings in their respective sizes; those that are too small for present use can, if required, be pricked out on a spare bit of ground for use another season; by that time they will make capital plants.

Cerastium tomentosum, with silvery-gray foliage; *Herniaria glabra*, deep green in colour of growth; and *Spergula pilifera aurea*, having shoots of a rich golden colour, are three most useful plants for edgings. They all possess the valuable properties of hardiness and easy culture, as well as that of being very rapidly increased when so desired. These should also be replanted during the present month, so that they may become well established before the hot weather sets in. The advantage that the aforementioned plants more particularly possess is their hardy constitution, and consequently a saving of space, compared with such as have to be grown under glass during the winter season.

Propagation of Hardy Shrubs from Cuttings.—The increase of these, where it is needful to keep a supply for filling up any vacant spaces, may now be seen to, or, if preferred, it can also be done in the autumn. The common laurel, the Portugal laurel, the common green *Euonymus* (*E. japonica*), and its golden and silver varieties, the dwarf trailing *Euonymus* (*E. radicans*), an excellent edging plant with silvery foliage, and the *Veronicas*

of shrubby habit (the latter chiefly recommended for the sea-coast, where they succeed admirably), can all be increased from cuttings. If a cold frame can be spared for the two last-named genera, so much the better, to ensure more rapid propagation. Cuttings of healthy wood, not over luxuriant, should be chosen in either case, the length of each being regulated—according to the nature of its growth—from four inches to one foot. These cuttings should be inserted firmly in sandy soil, which can be made so in many instances by merely adding a fair amount of road-scrappings. They must be kept moist if the weather be dry, and also shaded should the sun shine brightly

Herbaceous Plants.—These, where the advice given in work for March has been acted upon, will need attention for water, should the April showers not intervene to assist Nature. When they are fairly started into growth, the delicate shoots of the fastest growing kinds, by reason of their being tender, fall an easy prey to slugs; a slight dusting of lime will prevent this, and do no harm to the plants.

Several kinds of herbaceous plants may now soon be propagated from cuttings taken from the old stools with care, when they are long enough to handle comfortably. These strike best in cold frames,



Fig. 1.—Plain.

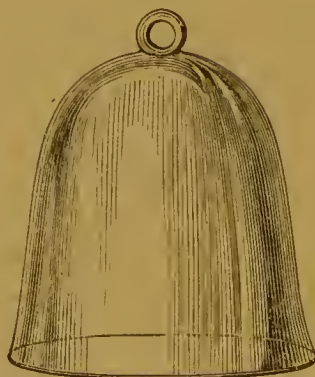


Fig. 2.—With Knob.

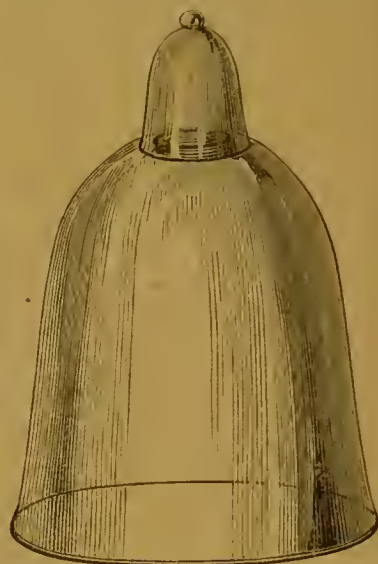


Fig. 3.—Movable Top.

BELL-GLASSES.

soon after they are inserted, this latter point can, however, in some cases be avoided by choosing a spot that is partially shaded. The cuttings should be allowed to remain in their position for twelve months, when they should be removed, the best and strongest to take positions where dwarf plants are needful, the others to be nursed for another season, with pinching out the points of the shoots as occasion may require to secure a compact plant.

Hollies can also be struck from cuttings, but their growth is more tedious; berries, too, of the green-leaved kinds may be relied upon to reproduce themselves. *Aucubas*, previously advised to be increased from layers, may at this season of the year be raised from seed, where the plants have been fruitful. The seed will now be ripe, and in a fit condition for sowing at once. It is an interesting pastime to raise shrubs from seed, with the prospect of raising a new kind.

or under hand-glasses, and will make good plants for flowering another season. The hoe should be frequently used amongst the plants, when their growth has sufficiently advanced to distinguish them from weeds. Caution is necessary in this respect, as some kinds are much later than others in starting to grow, especially in the case of the bulbous-rooted plants.

Hardy Annuals.—Where these were sown late in March, some thinning-out of the young plants will be most essential when large enough to remove with safety. This will give strength to those that are left behind; if the rest are required for transplanting to other spots, that may be done in showery weather; otherwise it is better to throw them away, than leave them overcrowded where sown. If any kind has not germinated freely by the middle of the month, some more seed should be sown to take its place. Mignonette does not at times come

up in a reliable manner—through no fault of the seed, however, as another sowing from the same packet may probably produce a far better result. *Mignonette* should never be transplanted, but merely thinned out when too thick; it also prefers firm soil to that which is deeply dug previous to sowing the seed.

Another sowing of sweet peas should be made during April, to prolong the flowering season. Those sown in March, and now above the soil, should have a little fresh soil drawn up to them, as a slight protection against wind. Birds are partial to the young shoots, and will do a considerable amount of injury if not prevented by means that have already been advised. When the young growths have advanced sufficiently, a few sprays or twigs should be placed around them.

on hand, it will be better to wait till the end of May before obtaining them. But those who possess a small stock, and are desirous of increasing their number, may do so with comparative ease, by striking them from cuttings. This is better accomplished by means of a little artificial heat, if the cuttings are taken for that purpose early in the month; but it may be performed in a cold frame a few weeks later on. In order to obtain the cuttings quickly, the old plants should be brought out of their winter quarters and covered with a little soil, in a moist state, where no frost is likely to reach them. They will, with the aid of a little warmth, soon show signs of growing. When the shoots are about four inches in length, they should be cut off, with a little heel, by means of a sharp knife. Each cutting should be placed singly in a very small pot, which



Fig. 4.—Copper Frame.

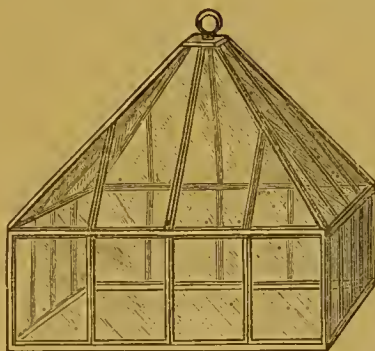


Fig. 5.—Iron Frame in one Piece.

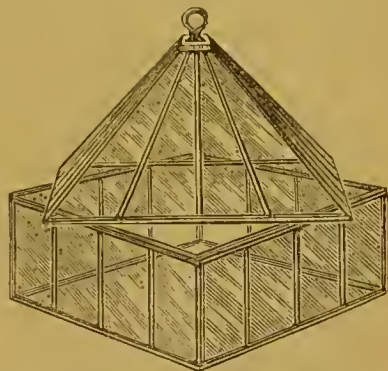


Fig. 6.—Movable Top placed to admit Air.

HAND-LIGHTS.

Dahlias.—These useful and most popular flowering plants for the late summer and autumn blooming should now receive some attention. As previously alluded to, some of them may be raised from seed sown out of doors in a warm and sunny spot, with a good expectation of bloom the same season. In raising dahlias from seed, there is a danger of too strong a growth the first season; guard against this, therefore, by not enriching the soil too liberally for seedling plants of the first year. In the case of plants raised from cuttings, or where the old tubers have been replanted, this over-luxuriance is not so likely to occur, but in no case should the soil be manured too heavily for dahlias. Those who contemplate commencing dahlia culture, should sow the seed of the single kinds at once, in pots, and place them in a cold frame or greenhouse; failing these accessories, the middle of the month will be soon enough to sow in the open ground.

The other sections of this flower are more preferable, as well as more reliable, if purchased in named varieties. Where there is no stock of tubers

is far better than striking several in one pot, as the roots are not so likely to be injured in re-potting, with a relative check to the young plant. The soil for cuttings should be composed, half of sharp sand and half of good loam. The cuttings must be pressed firmly when inserted into the soil; the opposite of this is more likely to produce failure, through the soil drying up more quickly. Until root-action commences, the cuttings should be carefully excluded from the draught and from bright sunshine. This is more readily done by means of a hand-light or bell-glasses, either of which are valuable aids in raising plants from cuttings or from seeds. Figs. 1 to 6 show the principal varieties of these useful gardening appliances, Fig. 3 of the bell-glasses, and Fig. 6 of the hand-lights, enabling the supply of air to be adjusted, with the nicest gradation, by means of the movable tops, which in the case of the bell may be removed altogether. Each kind should have its name or colour attached, by means of a label, for the proper arrangement of the plants when planted out later on.

As a guide to those who have not a good selection, or who have not hitherto grown any, we append the following list, so that they may be obtained in good time for the present season's flowering.

Single dahlias have been advised to be raised from seeds, but if it is desirable to obtain named kinds, so as to save any future selection of colours, the following are among the best now in cultivation:—White Queen, pure white; Beauty of Uplands, rich crimson; Dorothy, rosy-peach; Duke of Teck, lilac; Evening Star, bright crimson; Firefly, orange-scarlet; Harlequin, deep rose with purple stripe; Harold, velvety maroon, nearly black; Mrs. Bowman, purplish-magenta; Primrose Queen, pale yellow; Sunbeam, deep yellow; Zephyr, crimson and bronze.

Bouquet or Pompon dahlias. These possess the valuable properties of free flowering, as well as being most useful for cutting purposes. Where many cut-flowers are needed, they should be grown in preference to those with larger flowers. The following sorts may be relied upon as amongst the most distinct—viz., Butterfly, orange and claret; Chameleon, yellow and lake; Cupid, white and rose; Dora, primrose and white; E. F. Jungker, amber; Fair Helen, white and lilac; Garnet, orange-scarlet, very dwarf; Gazelle, pale yellow and magenta; Iolanthe, deep orange and buff; Lady Blanche, pure white; Little Duchess, crimson and white; William Carlisle, rosy-crimson.

Bedding dahlias. These are the best to choose for grouping in beds of one or more colours, being especially adapted for such purposes, because of their dwarf habits. The best to grow are:—Cloth of Gold, bright yellow; Crimson Gem, a rich crimson; Marguerite Bruant, white; Rising Sun, scarlet, very dwarf; Zelinda, purple; George Thomson, primrose-yellow.

Cactus or decorative dahlias. These are most distinct, and very much resemble a fine blossom of a large-flowered cactus (individually), hence their name. They succeed better on poor soil than on rich, having a tendency to grow strongly. If, however, a fair amount of room can be given them, they are almost bound to give satisfaction. The best to choose are:—Empress of India, deep crimson, shaded with maroon; Pantheon, a pale scarlet; Amphion, pale buff, extra; Henry Patrick, pure white; William Darvill, plum colour; Honoria, yellow; Mrs. Hawkins, sulphur-yellow; Lady Marsham, bright salmon; Beauty of Brentwood, soft purple; Juarezii, crimson, semi-double; Glare of the Garden, scarlet, very free; Asia, pale pink. Those dahlias which are known as "shows" and "fancies," produce flowers of fine form, and of great diversity of colour, but are not so well suited for general cultivation as those kinds we have named in the foregoing lists.

The Common Musk.—This is a most acceptable plant for growing in the flower borders, even if only for its perfume, so well known to lovers of sweet-scented plants. In some soils it will almost become a weed, so freely does it grow; this, however, can be easily overcome when needful by the use of the hoe. Those who possess a little patch of it, may now increase their stock by division of the roots; while such as have already got a good supply, will find that a few pots-full would be most acceptable for growing in windows, either outside or in. Almost any kind of soil will suit it, either in pots or the open border. There is now (recently introduced) a dwarfed variety, which makes an excellent edging to flower-beds, and contrasts well with blue lobelias. We have grown it, and proved it to be most useful as a bedding-plant, being very free flowering when exposed to the sunshine. It is called the "Compact" musk, or *Mimulus moschatus compactus*. The "Giant musk," known likewise as "Harrison's musk," is also a good bedding-plant, flowering freely nearly all the summer; but it is safer kept in frames during the winter months, because of its more tender constitution. Thus treated, it is well worthy of a place in any garden.

Ivy.—Where this climber has overgrown itself, either to the detriment of other plants, or so as to take up too much room of the garden space, the month of April is the best time of all the year to cut it back. This may be done in what some might consider a severe manner; but when it is cut at all, it is best to treat it thus, as all the old leaves and decaying growth can then be removed effectually. When finished, it will be well to note if any support is needed to secure it in its position; this is best done with strong holdfasts and stout rope-yarn, so as to make a permanent job. In the course of a few weeks the whole surface will again be clothed with foliage, which in its young state has a most pleasing effect; this is one of the advantages of deferring the pruning till late in the spring. Clean cuts should, as a matter of course, be made; then there will be less danger of any of the wood dying back, through its capability of healing more quickly when not injured injudiciously. Should the "Black Fly" attack the young shoots, which it will do at times in dry weather after this treatment, the whole surface should have a few thorough drenchings with a garden-engine or syringe. For this purpose a weak solution of soapsuds from the laundry is most beneficial as a cleansing medium.

The Rose Maggot.—This is a most troublesome insect, being very destructive to the young shoots of roses as soon as they are fairly started into

growth. It attacks them as soon as the first leaves are about half developed, and may be first recognised by two or more leaves, or portions of leaves, becoming drawn together by the web that is formed by the insect in its earlier stage of existence. This is the time when it can be destroyed most effectually, as well as most speedily. A gentle pressure with the finger and thumb on the leaves so drawn together will have the desired effect at this period of its existence. If overlooked till a few weeks later on, each of the insects will have to be hunted out individually, and that possibly not before they have devoured the point of the shoot, and destroyed the hopes of a future truss of flowers. Sometimes these insects will be found coiled up close to the bud itself, which, on examination, it will be found to have devoured at its leisure. We strongly advise that this insect be searched for diligently. It is not laborious work, but rather that of patience, which if expended upon the rose-plants for a few weeks, will amply repay the cultivator, whether it be where there are only a few plants, or if grown in larger numbers. Non-attention to the depredations of this insect is productive of the greatest amount of disappointment later on, for not only are the buds injured, but the foliage too. We have noticed instances in which nearly every bud on individual plants had been destroyed. This could easily have been avoided by devoting a little attention at frequent intervals, as previously advised.

The Lawn.—If the proverbial April showers ensue towards the end of the month, mowing will have to be performed more frequently. It is better, for the appearance of the lawn, to attend to this, for where overlooked until the grass gets long the machine has a difficulty to get through the extra amount of grass in a satisfactory manner. Not only is the grass cut unevenly, but the surface is also left in a smeary condition, which will take some weeks to set right again.

Weeds will now be making an appearance. One of the first to give trouble is the Dandelion, for the destruction of which advice has already been given. Where the grass is thin and looks weakly, it is a good plan to sprinkle over the surface some finely-sifted soil mixed with wood ashes, which is a capital renovator. When this has been done, if the case is a very bad one, some more lawn grass seed should be sown over the worst places; or it may be mixed with the soil previously advised for application, and afterwards finished off with the roller to obtain a smooth surface. The machine must be kept off these spots for several weeks to come, any necessary mowing in the meantime being done with a scythe that has a sharp and keen edge. Should the weather set in dry for a

few weeks, freshly-laid turf will require watering to preserve its vitality, and to prevent that separation between the turfs so much to be avoided. It is better to see to this watering in the afternoon, and repeat it before nightfall, when all the water will be absorbed into the soil; whereas, if done in the morning, some of it would, at least, be evaporated and its good effects in a measure lost upon the turf through want of time to penetrate to the roots of the grass.

Calceolarias.—These very showy plants for the flower-beds and shrubbery-borders may be planted towards the end of the month, and with prospects of better success than if left till the majority of bedding-plants are usually turned out, in the middle of May. Time is thus afforded them of becoming better established before the hot weather sets in. Early planting is also productive of early flowering, and that before several other plants make much of a display. The bedding Calceolarias delight in a deep, rich, and moist soil, and should be planted rather more deeply in the ground than in the case of Geraniums and other plants. If at the time of being planted there are any flower-spikes showing, it will be better to pinch them out, thus concentrating the strength of the plants in fresh growth for the first few weeks. They should always be well watered after planting, to settle the soil around the roots, which will be found better than pressing the soil down too firmly—a treatment good for many plants, but not for the Calceolaria if carried to the extreme.

Gaine's Yellow and Golden Gem are two good kinds of their colour. Sparkler, which has a crimson-gold cup flower, is very distinct and showy.

Chrysanthemums.—In favourable positions and localities these may, towards the end of the month, be placed in the open air, and even sooner if some slight protection can be provided, should the weather be colder than usual at night. It is a common mistake to give them too much protection or to keep them under cover of glass too long. The result in either case is weakening to the plants, and is productive of a taller growth than is desirable. Late struck cuttings should be potted off as soon as possible; then gradually hardened off and stood outside. Others that are filling their pots with roots will need to be watered freely; at no time must they be allowed to suffer in this respect. A close watch must still be kept against any injury to the points of the shoots by "Green Fly." To remedy this there is nothing better than a very slight dusting with tobacco powder after the plants have been sprinkled overhead for the better retention of the dust upon the foliage to catch any crawlers.

Bedding-Plants.—We include in the following remarks only such kinds as can be grown in a greenhouse during the winter months, or at the very most such kinds only as will succeed in a minimum temperature of 50°, and even those can be generally accommodated in an ordinary greenhouse by placing them in the warmest position. Geraniums are amongst the easiest plants to keep through the winter months for the above purpose; they are quite safe if the temperature does not fall below 35°, provided that they have been kept dry at the root, with a corresponding cessation in growth. Geraniums in this respect are very amenable to a rough-and-ready mode of treatment; more so, in fact, than many plants. Those who have a stock by them that have been struck the previous autumn, several cuttings in one pot, should, as soon as possible, shake them out of the soil in which they have been kept through the winter, at the same time preserving as much root as possible to each one. Then they should be potted carefully, one or two plants in small pots (known as "sixties" in the trade) according to their size, and afterwards placed closely together to economise the room. One good watering should be given them at once, and slight sprinklings daily in fine weather; a slight shade by means of an old newspaper or two, when the sun shines brightly, will keep them from flagging. Root-action will recommence in a week or ten days; then more water will be needed, to be increased as growth proceeds. Flower-spikes should not be permitted to develop themselves before the end of the month, and any extra long shoots should be pinched, to obtain a more compact plant. Any decaying or yellow leaves can be removed when they are examined for water; if the soil has a disposition to become hardened on the surface, a light stirring will be beneficial; this happens more often when it consists of nearly all loam. When a little decomposed leaf soil or manure can be added to the loam, it will be all the better for the plants, and induce a more vigorous growth.

All plants of Geraniums that have been preserved the previous autumn from the flower-beds should at once be cut back and kept dry for a few days. They will soon start into fresh growth and make good plants by the end of May. The shoots from such plants will make good cuttings for immediate striking, placing two cuttings in a small pot at the extreme edge and opposite each other. By this means neat little plants can be had for bedding-out the same season; no future potting, which is of itself a slight check at the time, will be needed. These cuttings will strike more readily if a little extra warmth can be given, or if treated as advised for Dahlia cuttings.

The best Geraniums to grow for bedding are:—

Vesuvius, bright scarlet; Henry Jacoby, deep crimson; Master Christine, bright pink; Mrs. Turner, pink with a purplish shade; Niphetos, white; Ellen Clarke, salmon. The double-flowered kinds so much grown in pots are not so good as a rule for planting out, with the exception of the Ivy-leaved kinds. These latter are proving themselves to be amongst the best of all the family for these purposes. Of these Alico Crousse, deep magenta; Madame Thibaut, pink; Jeanne d'Arc, blush-white; Emile Lemoine, orange-scarlet; and Congo, light lilac, are all excellent in their respective colours. Those who do not possess these varieties will do well to add them to their collections for the coming season.

The wonderful advance that has been made in the tuberous-rooted Begonias (now so much grown in pots) has added another family of plants to those already cultivated for the flower-beds. These are as easily grown as Geraniums, but are best increased from seed rather than cuttings. Where there are not means of raising seedlings in warmth early in the year, the best plan will be to purchase young plants raised from seed the previous year. These will now soon be commencing to grow, and may be bought at once, the cheaper way being to obtain the bulbs whilst they are dormant, and pot them, or place them in extemporised wooden boxes at a fair distance apart, just as might be done with Hyacinths or Tulips. They will thrive well in a greenhouse, not too far removed from the light, with other treatment as suited to Geraniums. Those plants amongst these Begonias that promise the best could be retained in pots for the greenhouse all the summer.

Petunias can be easily raised from seed as previously advised. They should now be large enough for pricking out, either in shallow pans or boxes, at about four inches apart, or even closer if desired for a larger stock. Treat them in a similar way to newly-potted Geraniums for the next few weeks.

The Marguerites, or single Chrysanthemums (also called Paris Daisies) are excellent bedding-plants, flowering most profusely in sunny spots. If obtained thus early, they could be grown and made more of than if left till the proper time for bedding-out comes round.

Lobelias (blue) require the same treatment as petunias, but are somewhat slower in growth. They may, when raised from seed, be now pricked off, but more thickly than the Petunias; they delight in frequent sprinklings through a fine rose attached to the watering-can.

Pyrethrum aureum (the Golden Feather) succeeds well when treated in a similar way, with the advantage of being one of the first plants that may be turned out of doors to make more room for other stock. Tropaeolums, if sown at once, will make

good plants for trailing purposes, better even than if sown earlier in the year. *T. canariense* (the Canary Creeper) is worthy of consideration. Heliotropes, Ageratums, and *Mesembryanthemum variegatum* (the Variegated Ice Plant), require to be grown at the warmest end of a greenhouse, where they may be kept with safety. Cuttings of these plants, if struck now in a slight warmth, will make good plants in time for planting-out. It does not pay to grow the dark-leaved Coleus, and a few other plants that require extra warmth, early in the year, unless such warmth is kept for other things; the better plan being to buy them when required.

There are a few good plants for flower-beds that are seldom seen used as such. The following are a few instances, viz., *Agathæa cælestis* or Blue Marguerite, a lovely plant and most floriferous, having pale blue flowers; it makes an excellent carpeting to a flower-bed. *Cuphea platycentra* is another plant most deserving of cultivation. Its singular flowers, orange-red and deep purple, are produced in such profusion as to make an effective display in spite of their insignificance in point of size. *Koniga variegata*, a variegated plant well suited for edgings, would associate well with either of the foregoing. Seed of *Targetes signata pumila*, of which we made reference in our seed list, should be sown at once in a shallow pan. If, after the young plants are of fair size, they are pricked off singly, a nice stock can be had by the end of May. Its elegant foliage is beautiful in itself, but when studded with star-like flowers in profusion (colour, golden-yellow), it is a most striking object. *Aloysia citriodora* (lemon-scented sweet Verbena), although an old-fashioned plant, is one most deserving of cultivation for the sake of the perfume of its foliage. It will live out of doors in a warm spot for years.

Fruit Trees.—In favourable localities, and where planted with a southern aspect, peaches, nectarines, and apricots will need more attention towards the end of April. Any close observer will note that they produce a great amount of young shoots, the old wood of the previous year being, in fact, closely studded with them in many instances. It is weakening, and consequently injurious, to the plants to allow this growth to proceed too far without action being taken. When the shoots are about an inch and a half long, it is time to commence thinning them out, which is generally termed by gardeners disbudding. The first to be taken away are those next the wall, and then those that face outwards from the wall; this should be done gradually, not removing too many at one time, so as to cause a check to the growth. The removal of these superfluous shoots will concentrate more vigour in the

fruit at its earliest stages. In a few more weeks other shoots will need to be taken away above and below the wood, until, in the case of the two former fruits, there is a space of ten inches or one foot between each shoot. With the apricot, a few of the latter shoots should be pinched to produce fruit-bearing spurs for another season.

A close watch should be kept over the peach and nectarine, to guard against any injury from the Green or the Black Fly, both of which soon work sad havoc on the young shoots. Frequent syringing will aid greatly in keeping both in check; but if there is much of the latter seen, the better plan will be to well moisten the points of the shoots where affected either with some tobacco-water of moderate strength, or the well-known insecticide called "Gishurst Compound" as recommended in the instructions for its application. The apricot is at times troubled with a maggot in the foliage, similar to that which is troublesome to the rose; hand-picking is the best remedy against this.

Newly-planted fruit trees of the first year should have nearly or quite all of the fruit-buds rubbed off; only where the trees are of extra strength should any be left the first season. It may seem a sacrifice to do this, but it will pay in the end, by the strength that is imparted to the trees, which should be well established before being allowed to mature much fruit. Attention to the needs of freshly-planted trees in respect of watering will be more necessary now they are commencing to grow; in fact, even if the weather be showery, it will be better to err on the side of moisture, than on that of drought. Trees planted against walls frequently suffer before one is aware of the fact; this is caused by the protection afforded by the wall in throwing off the rain. Non-attention to this point of watering will at times be prejudicial to the vitality of the trees; it is certainly a point that is frequently overlooked in the culture of fruit trees, the failure probably being assigned to some more remote cause. This, and other little details, which from time to time we hope to elucidate, will, if carried into effect, help greatly to remove, or place at a remote distance, those little failures which often discourage a fresh cultivator in his desire to excel.

Strawberry plantations should now be frequently stirred upon the surface, but not deeply, with a hoe; it will aid in checking the growth of weeds, and, at the same time, prevent the surface from becoming too hardened, and thereby impervious to the beneficial effects of rains in an equal measure all over the beds. Should any growers of strawberries have the contents of a liquid-manure tank at their disposal, it would be a good plan to thoroughly saturate the beds with the same towards the end of the

month; caution is, however, needed not to apply such stimulating agents too strong, neither should it be permitted upon the foliage, especially now that younger foliage is developing.

Figs are not seen in many gardens, yet their culture may be safely attempted in the southern counties, along the coast-line, where we have frequently seen them thriving exceedingly well. Given a warm spot, with the protection of a wall from the east and north winds, their culture may with safety be attempted, and good results anticipated. The fig is one of the easiest fruits to cultivate where the climate is favourable. Now is a good time to plant them, and that in soil not too rich, or there will be a tendency towards woody growth, rather than that of a fruit-bearing character. Brown Turkey and Brunswick are two of the best for outdoor culture; the plants should be purchased in pots, and turned out of the same close to, and afterwards trained against, a wall. The exterior of a chimney, from which a little warmth is derived, would, if towards the west, be a good spot to choose for fig culture.

Kitchen Garden.—April will be a busy month in this department, as vegetation will be advancing rapidly. Seeds of onions, carrots, and parsnips should now make a good show, if the crop was got in under good conditions and the seed good. Occasional dustings with soot and lime, the former predominating, will greatly assist these crops, and prevent them at the same time from falling a prey so easily to insects. The hoe should be worked lightly over the surface between the rows, but thinning of the plants had better be deferred for the present. About the middle of the month a small quantity of the Egyptian turnip-rooted beet may be sown for early use, under the same conditions as advised for other root-crops. Celery seed for general use should be sown now without delay. A shallow box or pan will do for this; see that the soil is kept well moistened, but not to excess; this will assist in a quicker germination. Another sowing of lettuce seed should be made, to form a succession to the earlier stock; for this purpose a few small pinches of seed are quite sufficient. Successional sowings of any kind of vegetable seed is better made in small quantities; not only is it economy, but a stronger plant is obtained as well, where the seed is sown more thinly.

Vegetable-marrow seed should be sown soon, if protection can be afforded by means of a frame or a greenhouse; three seeds placed in a six-inch flower-pot that has been half filled with soil, and the seed covered to the depth of one inch or so, will be a good and easy mode of raising the young plants. When the seed is sown, some pieces of glass should

be laid on top of the pots, as mice are very troublesome and most persistent in their efforts to get at the seed of marrows. As soon as the plants have made two or three rough leaves, the remaining empty space, in the pots may be filled up with good soil; the plants will root into this addition; it will thus be the means of sustaining them until next month, when the weather is safe enough for planting out of doors. Towards the end of the month some seed may be sown on rich soil out of doors; but this, too, should be covered with either a bell-glass or by placing four bricks together and covering over the top with a square of glass.

About the third week in April is a good time to put in the first lot of Scarlet-runner Beans, unless the situation be exposed or contiguous to streams, and consequently more susceptible to frosts. If any wall-space is at disposal which has a fair amount of the sun's rays upon it, Scarlet-runners will quickly cover it with an ornamental effect, as well as being productive of utility. When thus grown, some strings should be fixed perpendicularly for their support. French Beans should be sown also towards the end of the month. In doing this two narrow drills had better be drawn close to each other, and the Beans be placed in each drill at about six inches apart. In this manner the plants support each other more effectively than if only a single row be sown. The seed of Beans should be covered about two inches. One or two more sowings of Broad Beans in succession to those sown last month will be necessary to prolong the supply. Two or three sowings of as many kinds of Peas should be made, the first as early as possible, the next with an interval of ten days or so. The early-sown Peas and Broad Beans will now be growing away well, if circumstances have been favourable. A little more soil should be drawn up to the rows, not only as a support, but likewise to divert all the water possible direct to the roots.

If the Parsley sown last month, or any of the Herbs also, are observed to be coming up badly, another sowing ought to be made to secure a crop. Brussels Sprouts and other plants of a similar character that were sown in March will, during April, need to be pricked off in rows five or six inches apart, and thus nursed for a few weeks till large enough to plant out permanently. When the Broccoli, Savoy Cabbage, and other like seeds are being sown, about the middle of this month, it will be well to sow a little more seed of Brussels Sprouts for later use. We strongly urge the culture of the latter vegetable in the smallest of kitchen-garden plots. Nothing gives a better return for the season they are in use; they are not difficult to grow under ordinary conditions and an average amount of

attention. Cauliflowers that have been protected during the past winter should now be planted out at about two feet apart each way. In showery weather slugs can be destroyed readily and with advantage to the crops.

The Greenhouse and Conservatory.—It will be an easier matter, now the days are lengthened and the weather more favourable, to keep these houses gay and effective. The chief of the bulbs will now be past their best for the season. As soon as they have ceased to be of any use they should be placed out of doors in a partially-protected spot, each pot being laid on its side. In this way they can be allowed to remain till all of the foliage has died down; then each one can be shaken out of the soil, and all laid out thinly afterwards in a dry place. As soon as they are quite dry they can be gathered up together, and put away till the autumn, when the majority will be of good service for filling up blank spaces by the margins of shrubs, where they will continue, in many instances, to flower for several years if left undisturbed. We feel fully persuaded that many bulbs are sacrificed annually after they have flowered in pots; hence we give this advice.

Spirea japonica will now do good service, as also will Cinerarias in succession to the bulbs. Azaleas will also flower in a natural manner from this time onwards to the end of May. The following are a few of the best kinds for general use:—*A. Fielder's White*, a fine white kind; *A. Roi Leopold*, salmon; *A. Roi Leopold alba*, white with occasional stripes; *A. Madame Van der Cruyssen*, rose; *A. Marie Verreux*, white with lilac stripes; *A. Model*, a very fine pink; *A. Borsig*, double white, very fine; *A. Apollon*, white with red stripes, flowers early; *A. Bernhard André*, dark purple, semi-double; *A. Duc de Nassau*, rosy-purple; *A. Madame Van Houtte*, white, rose, and carmine; *A. Reine des Doubles*, clear rose; *A. Souvenir du Prince Albert*, warm rose colour, margined with pure white, a very fine, free flowering, late kind; *Roi d'Hollande*, dark red, also a late kind; and *Stella*, orange-scarlet, shaded with rich violet on the upper segments of the flower. The foregoing are well-proven kinds, and will be found to be acquisitions to any collection not already possessing them. We advise that any new purchase which may be made should be of plants that are well established in this country. Plants looking equally as well, if not better, can be had which have been grown in Belgium; but these latter do not thrive nearly so well under ordinary cultivation when purchased immediately they are imported into this country. With special attention given to them they will, in the course of one season, become acclimatised, and thus capable of being more easily grown. Rather more water should

be given to Azaleas when their flower-buds are swelling; at no time should they be allowed to suffer for want of water, yet the other extreme of giving too much has to be avoided.

Lachenalias are very easily-managed bulbous plants which may now be seen in full flower. They are very distinct in appearance, and look well arranged with other suitable flowers in vases. Those who have not grown them may be able to procure a pot now they are in flower, and thus they will have a better stock to start with for another season. *L. tricolor* is the most known in cultivation.

Tree Carnations, under ordinary culture, will now be coming into flower, and will be most welcome for their fragrance: with care they will last for some time.

Old plants of Geraniums that are too large for planting out should be allowed now to come forward to succeed the Cinerarias as they go off. Show and Fancy Geraniums, mostly known under the name of Pelargoniums, will soon push up their flower trusses. They must now have more water given them, which, if occasionally aided by a stimulating manurial agent, will greatly assist in securing a good crop of flower. Green Fly on these plants will now cause trouble; fumigation with tobacco smoke by means of tobacco paper will kill them. Proceed moderately with it, however, where there has not been any previous experience.

The large-flowered herbaceous Calceolarias, which make such a fine show when in flower, should be kept at the coolest end of the house; otherwise, treated as just advised for Pelargoniums, with the exception of one thing—Pelargoniums enjoy the full benefit of the sun, the Calceolarias prefer a more shady position.

Fuchsias that were re-potted last month will soon be in fair growth: on fine days they should be syringed slightly once or twice; any shoots that show a disposition to start away too strongly, and at the expense of the weaker ones, should be pinched to regulate the growth. This will aid very much in forming a compact plant. Towards the end of the month some of the forwardest will require to be re-potted again into pots one size larger. The soil for this potting should have some rotten manure added to it. Myrtles that are grown in pots should now be examined at the root: if they are tight-rooted, a shift into a pot one size larger would be beneficial to them; if re-potting is not needed, a top dressing with good loam would be an assistance, first removing the loose soil from the surface to make room for the fresh.

Oleanders (*Nerium Oleander*) are popular plants with many. These, too, if requiring attention in a similar way, should have it done at once. To flower Oleanders well, they require full exposure to the sun, and the benefit of a warm corner of the house, if possible. We prefer them most when grown as

standards, as room is afforded for other things under them.

The Cactus family are great favourites with many people; they do not require a great amount of attention, and if not watered for a few days, perchance by an oversight, they do not resent the treatment. They do best when not disturbed too much at the roots; but fresh potting is needful at times, and, where required, had better be done this month. The soil should consist chiefly of good turfy loam, a little peat or other light soil, and some silver sand or old mortar rubble broken up fine. See that the plants have a good watering before they are potted, and another afterwards; also that the soil is pressed down firmly around the old ball by means of a strip of wood. Any fresh stakes that may be needful to keep the plants in form should be got and painted green. Insert these in the fresh soil, or into the same holes as the old ones came out of, to avoid destroying roots.

Vines.—In cool vineries or greenhouses the vine will now be showing signs of active growth; several shoots will often burst forth from around old spurs. These should be gradually reduced down to the strongest one, whilst on the young wood of the previous year, where the buds burst forth at nearly every leaf-joint, some must be taken away, so as to regulate the shoots at about one foot apart; any closer than this is detrimental to the proper development of the growths. When vines are breaking, the night temperature should average about 50°, gradually advancing till 55° is reached by the time the shoots are one foot in length. By that time they will need to be brought down carefully from the glass to the wires, a little way at the time, and not against the grain of the young shoot where it has broken forth from the old wood. The day temperature should range 10° to 15°, or even 20° higher, just according to the state of the weather. Guard against too much ventilation when the wind is in the east.

CYCLING.

PROBABLY no pastime ever invented has taken a firmer hold of the public taste in a comparatively short time than cycling has. It is really only since 1867 that anything resembling modern bicycles were introduced into this country, although there are, no doubt, men still alive who would date the invention back to a very early period of the present century. There was, about that time, a short-lived craze for what were called "hobby horses." We cannot glance at an old engraving of one of these without smiling, for, while straddling on his strange machine, the "rider" had to touch ground with his toes to send him along. Indeed, the locomotion bore about the same relation to riding, that the movements of a barn-yard goose helping itself on as it runs by flapping its wings bears to the swallow's flight. Even in 1869 the wooden "bone-shaker," as it soon came to be called, was a very poor sort of a machine after all; its wheels were of wood, its steering-bar no bigger than a sugar-tongs, and its bearings "plain." If it had an advantage, it lay in the fact that its metal tyres and rickety saddle were bound to shake the liver up. Ridicule and abuse followed the cyclist in those days, as surely as did the shadow of himself and his wretched machine; and it is no wonder that for years the pastime was confined to the few. But science and art came to the rescue at last, and the india-rubber tyre and ball bearings effected a revolution in the whole machine. About the year 1876 cycling made a new start, and at the present day

machines may be said to have reached almost the goal of perfection.

"Not quite perfection," some will reply; "we want machines that will have electricity as the motive power." No, we do not. There might, we confess, be some advantages derivable from an electric cycle, and it would be pre-eminently the lazy man's vehicle. But three parts at least of the pleasures of cycling would be thereby lost, while all its health-giving advantages would be confined to those arising from fresh air and change of scene. These last electric cycling might still be credited with, but debited at the same time with the dangers arising from "catching cold." While the muscles are all in play, one can ride safely enough against the wind, even when the temperature is very low, or through a rain that soaks the rider to the skin: but to *sit still* under such conditions might result in one or other of the worst forms of internal inflammations or congestions. The difference in pleasurable emotion between sitting motionless while travelling, and exerting oneself, or being one's own motive power, is never better felt or appreciated than when one mounts his machine to ride home after being cramped up for an hour or two in a railway carriage or in an omnibus. Time almost invariably seems long in a railway carriage: it is brevity itself while one is spinning along the road on his own iron steed.

Although bicycles, in the shape of bone-shakers, were introduced into this country nearly thirty years

ago, anything like general popularity is of far more recent birth; but once fairly started as a popular recreation, year after year cycling has become more and more so. It is known that there are at present not less than 600,000 machines in use in the British Islands alone. For the riders of these are published different series of excellent country maps, giving every road and every lane, to say nothing of one or two capital road-books. Provided with these, it is all but impossible for the tourist to lose his way or come to grief. If, indeed, his machine should break down, he has but to turn to his map to discover at a glance the nearest place at which it may be speedily repaired. There are, besides, half a dozen weekly and monthly journals specially devoted to cycling alone.

If we turn to the advertising columns of any of the cycling periodicals we shall find that the luxuries of the road have not been forgotten; indeed, manufacturers seem to vie with each other in bringing forward new inventions and improvements to make one's cycling tour as easy and comfortable as there is any need for. The best of it is that most of these things are genuine. A patent medicine may be puffed into popularity, but a cyclist's requisite must stand or fall by the test of trial.

Cycling Clubs.—These are numerous enough all over the country, and there are many advantages connected with them. A young cyclist would do well to belong not only to some local club, attending its meetings and its runs, but to one or other of the two great national organisations, or both.

The *Cyclists' Touring Club* is a very excellent institution, formed for the advantage and benefit of the touring cyclist. Consuls are appointed all over the country, and these men—always energetic and enthusiastic wheelmen—give all particulars concerning the roads and routes through their district, the best hotels, &c. There is, moreover, a list of hotels where the cyclist, on producing his C.T.C. ticket, may receive accommodation at a tariff agreed upon by the Club and accepted by such houses. There is a uniform which riders may adopt, and, although not compulsory, it is neat and durable, the cloth being specially made of the very best quality. The subscription to this club is only

three-and-sixpence per annum, and to each member is posted monthly a copy of the *Monthly Gazette*. The Secretary is Mr. E. R. Shipton, 139, Fleet Street, London.

The *National Cyclists' Union* is another most useful institution, and as it is in direct communication with the Home Office it exerts a salutary influence on various illegal by-laws which some Local Boards think fit to pass. Notice-boards are also fixed by the Union at the top of dangerous hills, and action is taken by it in cases of unprovoked assault or obstruction. Many racing contests are annually held under its sanction. The annual subscription to this Union is one shilling, the Secretary's address being 57, Basinghall Street, London, E.C.

The advantages of belonging to local clubs are many. To do so gives one a greater interest in the pastime, and it secures companionship on the road, and even at home. Some country villages would be very dull were it not for the pleasure of having an occasional spin with one's club, or meeting its members socially, either in private or in public, at concerts, dinners, or theatricals.



SWIFT SAFETY BICYCLE.

Choosing a Machine.—If an inexperienced person takes a walk through the great "Stanley Show," or if he even glances through the advertising columns of the cycling papers, he can hardly fail to be bewildered at the variety of machines thrust upon his attention. If he seeks the advice of twenty friends, he may be rewarded with twenty different pieces of advice; for, ten to one, every one will recommend the cycle he himself rides. And Mr. Economy will earnestly advise him to purchase a second-hand one. Except he has at hand a competent adviser as to the quality and condition of any machine offered him, we as earnestly say, "Do not, unless you have absolute proof—first, of the date of its manufacture; secondly, that the maker has a name; and thirdly, that the machine is sound everywhere." Buying a second-hand machine is too often just as unwise as buying a second-hand ladder—either may lead to an ugly accident.

The best advice we can give to a complete novice with no personal adviser, is this: Go to the show-rooms of some large and respectable firm—either dealer and agent, or manufacturer—who cannot afford either to make or to sell a bad article. Any

cycling acquaintance will at least be able to give you the names of those firms who have acquired the reputation of "standard makers," and purchases by novices had better be confined to these. Any such firm will turn you out with a new machine which will delight the eye, and move along as noiselessly as a ghost—a machine on which you shall sit easily and comfortably, and on good roads, after a month's experience, feel as much at home as if riding in a carriage.

Coming more to details, the greatest improvement in cycle construction has taken place in the prevention of *vibration*. The solid rubber tyre was the first thing to make cycling really enjoyable. But it still left much to be desired, and many ingenious devices in the shape of spring-frames and spring-forks were applied to both bicycles and tricycles with more or less success; indeed, some kind of spring-fork is still often used to reduce the vibration of the handle-bar, the last to disappear. The most cardinal improvement was, however, inaugurated by Mr. Dunlop, an Irish inventor, who conceived the ingenious idea of destroying or reducing vibration at its very root, by surrounding the wheel by a *hollow* india-rubber tube inflated with air, from $1\frac{1}{2}$ to 2 inches diameter. In practice, the air-tight tube was made of very thin rubber, which was supported against bursting from the pressure by a stronger and thicker outer case. Many modifications of the idea have since been introduced; single thicker tubes have also been largely used, and also various forms of "cushion" tyres, in which the tube is also hollow, but not inflated. These tyres have revolutionised both the efficiency and comfort of machines, and in some degree their construction; but the two classes of tyres—inflated or "pneumatic," and uninflated or "cushion"—differ in their effects. The pneumatic tyre gives greatly increased speed (and it is very remarkable that this is as noticeable on smooth asphalt as on rough roads) and marvellous ease of propulsion, the machine appearing to "skim" the ground. On the other hand, while the tyres take up the smaller vibrations from the road, the machines "bound" a great deal over larger ones (unless combined with a spring frame), and they are liable to puncture from bits of glass, nails, &c. The cushion tyres are fully as efficient in absorbing vibration, but travel less easily and are slower; on the other hand, they give no anxiety in regard to punctures. There is an intermediate class of cushion in which the rubber is supported partly on the principle of the arch, which approach much nearer the pneumatic in efficiency—the best of them very nearly indeed—while still free from anxiety: perhaps these are really most advisable for general family use, or long tours by other than experts.

Bicycles.—Coming now to types of machines, the so-called safety machines with two low wheels are nearly all the rage now, and there is no doubt they are exceedingly light and handy. Indeed, with one of these a cyclist can go almost anywhere. He can get through a hedge easily; and a ploughed field, or even a fordable river, forms no obstruction when the cycle is so light that it can be carried in one hand. Such machines are also very easily stowed away—in a passage, or anywhere. Their general popularity has, however, caused these machines to be made by scores and scores of "little makers," at all prices—from £6 upwards. A safe machine cannot be made at such prices, and "cheap" safeties are emphatically to be avoided. The best makers run to about £20 to £26 for their best makes, with 10 to 20 per cent. discount for cash; and have "second-grades" of less finish, but trustworthy, for some pounds less. A really good second-hand one by a first-class maker may be had for £10 from the advertising columns of the cycling papers, and can rarely be got for less, which is a sufficient proof of what real quality is worth. A thoroughly good machine of the class known as "light roadster" can now be obtained at or even under 35 lbs. weight. Such weights are, however, only safe of the best quality, and a cheap machine of 30 lbs. would be a certain smash before long. One of the modern improvements has been to enclose the chain in a tin case, within which it runs in a bath of oil.

The model of the safety bicycle has been gradually changed since its introduction, but has gradually settled into the pentagonal or "open diamond" as shown in the figure, representing one of the "Swift" machines, made by the Coventry Machinists' Company. Some makers used equal-sized wheels, others make the front wheel larger, others the reverse. Safeties are made for ladies with the frame dropped to make room for the skirt, and many such are now ridden in England. The "ladies' frame" is, however, inherently weak, which makes the machine heavy, and very liable to break in pieces (as many have done). This has caused further movement in favour of women wearing knickerbocker costumes and riding men's pattern machines. Without discussing such matters at length, and fully admitting that for many reasons more rational costume is highly desirable for the female sex, as a matter of fact we have been compelled to notice that these recent developments, and some other eccentricities, have caused a perceptible growth of opinion in society that girls who cycle are "not nice girls," and that there has been a noticeable decline in cycling amongst ladies of the better class. This is a fact much to be regretted.

The old-fashioned high or "ordinary" bicycle is

quite gone out; but built with a smaller front wheel, 36 to 44 inches, "geared up" by tooth-gearing, the "geared ordinary" still exists, and is preferred by some. It is less muddy in winter riding. Similar gearing has been applied to machines with two small wheels, then known as "front-driving safeties."

Tricycles.—Except for gentlemen who cycle regularly, and naturally prefer the safety, the tricycle is the machine for general family use, and especially for middle-aged people and for ladies. It gives no anxiety in learning, and a lady's tricycle weighs no more than a lady's bicycle, while taking the day all through, especially down and up hills, it is more enjoyable and restful. Even for a gentleman, unless young and strong, a bicycle is not always the best mount. For him it is indeed rather less weight and exertion, can find a good path where a three-wheeler must encounter rough stones, and is faster, though not so much so as supposed. But the constant balancing is an *imperceptible* strain on the brain and nervous system, from which the other is free. We have known several who changed to the safety bicycle, who declared that the safety "took it out of them" in this way, and went back to the three-wheeler with marked satisfaction. Not so much actual health and strength, as nervous temperament, has probably most to do with this matter.

In tricycles, unanimous experience has settled down, through gradual changes, to the "Cripper" type as safest, pleasantest, and altogether best. This term means that the front wheel is steered *direct*, by a slanting post and fork, to the top of which a cross-handle bar is attached. In the main points the machines of all the great makers closely resemble each other, but there are differences in detail. One of these is concerning the point of "automatic steering," which means that a spring arrangement tends always to bring back the steering wheel and handle-bar to the straight or middle position. Riders who rush about on Saturdays at the top of their speed, and care for nothing else, eschew automatic steering altogether. On the other hand, all quiet riders who have ever tried a "mild" automatic gear, infinitely prefer it, and no tricycle should be purchased for an inexperienced lady without it, while in country riding such steering gives, on occasion, far greater use of the hands.

A lady's tricycle should be a front-steerer of the same general type as ridden by the sterner sex. To assist dismount, it is very usual for a lady's tricycle to have a folding handle-bar. The tricycle should further be as *light* a machine as possible, consonant with strength; and probably the less silver-plating about it, the better. Nevertheless, it should be kept scrupulously clean; and after it has been oiled, care

should be taken to wipe it clean of all drops, else a skirt may be irretrievably spoiled. Tricycles are often now made with a movable top-stay, so as to be suitable for either sex on occasion. The *weight* of a tricycle should always be carefully considered. Year by year this has decreased, to the great saving of exertion. This has partly been accomplished by using smaller wheels, 26 inches being very common; but such wheels cause much more vibration than 30-inch wheels, unless this is counteracted by other means. For a lady's use alone, a tricycle can now be obtained weighing about 40 lbs.—and, indeed, that weight need not be exceeded; while 45 lbs. will suffice for an ordinary man. It must be understood, however, that such weights are only safe with the best materials and workmanship, and may cost a little more; but such cost is well repaid in the constant saving of exertion, experienced every time the machine is used.

What is called the "gearing" also requires consideration. Suppose the driving wheels are 30 inches diameter; to drive them round only once for one revolution of the pedals, would mean a very slow speed. They are therefore driven so much faster, by the tooth-gear worked by the chain, as to be equivalent to a wheel of some other larger size. Powerful riders gear very high, to get racing speeds; but for family use, general experience finds 53 to 54 inches the best gear, and about 50 inches for weakly and stout people. Such gear will climb stiffish inclines pretty easily. Many men ride more comfortably with a 60-inch gear. A good "two-speed" gear, giving a lower gear for hills and head-winds, is a great assistance, at an extra cost, we believe, of about three guineas.

The *brake* should receive particular attention. Two kinds are in use—one, a steel drum on the axle, clasped by a leather-lined steel strap, applied by a system of levers; the other, a kind of steel spoon jammed down on the tyre of the front wheel. The last is cheapest, and is often preferred by experienced and powerful riders who can trust to their strong back-peddalling when necessary; but it is a dangerous and inefficient brake for others. If rashly applied the front fork frequently gives way. It will pull up a machine on a steep incline, but at the risk of this accident, of a sudden twist round, or even a somersault; and on a long incline the tyre may be injured, while the hand may be quite cramped. A good drum-brake is free from all these objections.

For two persons the most usual and popular make is a "tandem," built much like a Ripper tricycle, but stronger, and with a second saddle behind the axle. There are, of course, two handle-bars, and both should be coupled by a link, so that either rider *can*, though only one *should*, steer when both

are on the machine. A sort of gridiron is generally arranged between the two riders, for carrying any luggage, which is very convenient. For mere daily riding, the handiest plan is to fasten on the grid an oblong open-topped basket, in which wraps or other oddments can be loosely placed as required. Another form of tandem has a pair of wheels in front, between which the lady sits if she is one rider, while both chains work a single wheel behind, the rear rider alone steering. This form is convenient, compact, and very comfortable and fast on smooth and nearly level roads, but it is not to be recommended for riding in hilly or unknown country, being far less under control when going downhill.

Allowing for discount, the actual cash price of a first-class single tricycle runs from £25 to £28 with pneumatic tyres. A good second-hand tricycle (one season's wear) can be got for about £15, but should only be purchased by a judge.

Saddles.—We have often seen very excellent cycles with bad saddles; but it is most important for distance riding that these should be comfortable and easy, with a good spring, and tight enough not to touch the spring beneath. The saddle must be raised or lowered to suit the height of the rider; if too high, the foot is held too straight, and this may cause injury to the joints and tendons. One should be able just to reach and rest on the pedal with the heel when at its lowest, but no more.

In nearly all cases the springs are far too *hard*, and utterly fail to take up the vibration. Sensitive people must be particular about this; and if the absence of spinal vibration be really important, a saddle should be chosen with what is called "shackle" suspension, the saddle being hung or swung on two links as well as furnished with springs. "Pneumatic" saddles also obviate this evil.

Comfort further depends upon the shape and position of the saddle. Some people require broad, others narrow ones; and many men (especially after middle age, when prostatic enlargement is apt to set in) require a saddle which entirely avoids perineal pressure. Such saddles can now be obtained. Most people would ride better if accustomed from the first to ride with their saddles well "tensioned," as it is called, *i.e.*, kept tightly stretched by the screw provided for that purpose. A pneumatic saddle, on the other hand, must be ridden quite flaccid to be of use. Some also need the peak higher than others; but the proper general position is for the peak and the back to be almost level. A great many ride with the peak too high, and suffer discomfort accordingly. The position of the saddle on the machine depends on the style of riding adopted.

About Riding.—The first thing a would-be cyclist has to do is, of course, to ask himself the question, "Am I physically fit to ride?" Most ordinary people have no need to fidget about this; but if there be any doubt about it, the best thing to do is to pay a visit to the doctor, and so put the mind to rest. Like any other active exercise, cycling might be a dangerous pastime for any one who is physically unfit, as from any actual disease of the heart, or active ailment of the lungs, or other great organs. Even if the amateur is merely somewhat "below par," it may be well to adopt some preliminary exercise, and perhaps a slight tonic to increase muscular vigour and staying power before learning to ride. As a rule, however, the preliminary training may just as well be done whilst learning to pedal, if the exercise be only taken with judicious moderation.

Such gradual training is not only desirable for those who have never ridden before, but also for such as have been toiling all the winter long, without being in the saddle, and that probably in close and stuffy workshops or offices. For the latter class—as Dr. B. Richardson wisely points out—to commence at once, in the beginning of the season, to take long and fatiguing journeys, is highly injudicious, to say the least. But in what should this preliminary training consist? For those who can already ride, nothing more is requisite than to be moderate in the way they go to work during their first outings, to increase their daily distance gradually, as well as their speed, and to avoid "rushing hills." This rushing of hills is dangerous at all times, *even to the strong*. It is a sort of spurting that puts a terrible strain upon both the heart and the lungs; and although any harm done—such as dilatation of the heart—may be done but *slowly*, it is done *surely*, and the effects of continual spurting are almost certain to be felt in after-life.

Before commencing to ride, actually weakly people would do well, according to the best medical authorities, to take a tonic. This need not of necessity be medicinal—although iron in some mild form causes a wonderful improvement in impoverished blood—but cod-liver oil and the Kepler Extract of Malt, as used at the hospitals, will do much good, and so will the morning tub and a spell of dumb-bell exercise. But in any case the learner should begin easily and gently.

The individual who has never before ridden a machine will find the work very hard for a few days; but two or three weeks of easy practice every other day or thereabouts would soon put him "all to rights," and teach him to ride *a great deal better and more quickly* than pounding away for miles at a stretch, at a period when it is slavery to do so.

Learning the Bicycle.—This is more difficult, of course, than learning the trieyele. Beginners are usually advised to take a preliminary course of instruction at one of the riding-schools. This is certainly a better plan than learning by one's self; but many a good rider is turned out who has never had a lesson at all, except what common sense has taught him. Lessons, however, are very cheap, for one can have a whole course for about half-a-guinea, and they save many falls. Two beginners may, however, materially assist each other; and this is the ordinary plan—in country villages, at all events:—A quiet bit of road is selected, with an even surface, and a little downward slope. One gets on, and the other holds him on, the while the rider may be learning three things at the same time—steering, balancing, and confidence.

The theory of the bicycle is beautifully simple. If the machine were steered to the left whilst still upright, the rider would, of course, fall off to the right, from the centrifugal force thus brought into play. If, therefore, you feel you *are* falling to the left, you steer a little more to the left, and this puts you right at once; and what you have to learn is to do all this gently and insensibly, avoiding all sudden changes and conspicuous or violent readjustments. But it seems awkward at first to have to pull the handle to the side on which you are inclined to fall; and even if the beginner succeeds in remembering and doing this, he always at first pulls the bar *too far* round. This steering to balance should be mastered by the tyro before even the pedalling, which is the chief reason why a down incline is found so useful by all solitary learners; and each lesson should occupy at least an hour, unless indeed fatigue is felt before that time expires. It is really wonderful how quickly any one who sets earnestly to work may overcome the first difficulties. To be sure, he will have a fall now and then, but this does not really hurt; and about the third or fourth lesson he usually begins to be able to get about fairly. Dismounting is almost an exercise by itself, and should be carefully studied in every shape and form that is advisable.

In learning the modern "safety" bicycle, consisting of two equal wheels about 30 inches diameter, a real fall need hardly be encountered at all whilst learning, as the feet are so near the ground that the novice may come down upon one foot standing. On this machine such falls as he may suffer (we have known people never have one) are more likely to occur at a rather later stage, when he is proceeding with more confidence, but still has not become thoroughly at home, so as to balance instantly and instinctively on any unexpected trivial obstacle or interruption. Even such falls never hurt anybody; the people who do hurt themselves are the "scorchers"

who rush about at fifteen miles an hour or more. If anything happens to *them*, the consequences may, of course, be serious; but that is not the kind of riding we have in view.

The younger one commences riding the bicycle after the age of fifteen, the better; only care should be taken that the machine chosen is suitable for the age and strength. If a weakly lad rides a heavy machine, or one that is difficult to ride from any cause whatever, his cycle becomes his taskmaster; all pleasure is banished from the exercise, except such as a slave may feel in toiling for his owner; the body is weakened in joint and muscle; the skin rendered over-sensitive; and the lungs and heart both overstretched. A lad riding so is peculiarly apt, also, to develop knock-knees or bandy legs; and a father should therefore be careful over the choice of a bicycle for his son, and watch its effects. He should also see that moderation is observed, and a fair amount of walking exercise also taken; he must *insist* that the lad rides upright, or a round back and shoulders may injure him for life. We have the authority, however, of all the best medical experts for saying that, if used judiciously, cycling is the most health-giving exercise in the world, and it certainly is the most pleasurable.

Learning the Tricycle.—In learning the bicycle the novice is obliged to be somewhat cautious, and gets experience by degrees. On a trieyele, however, most people can "go ahead" at once, somehow; and as young folks are apt to be rash, more damage is likely to occur with a tricycle, for various reasons, unless the learner is warned against certain mistakes. Before getting into the saddle at all, he should make himself acquainted most thoroughly with the mechanism of the machine he is going to use. He should guide it on foot round to the right and to the left, to see how it steers, and acquaint himself with the action of the brake, for this is most essential to safety. Find out how it pulls up, on the level, before you do hardly anything else, and what force is required; and learn to pull up gradually, and not suddenly, even if it has to be done quickly. We mean that the novice should *practise* braking his machine. See that every nut is firmly home, and look after this before every important journey; for if one of them come off, it may cause an accident.

Make the first trial of the machine on a smooth and level road, and go slowly at the commencement. If the beginner does one mile the first day, it may probably be enough; and a lot may be learnt in it if he has made good use of his time, and practised pedalling, steering, and putting off and on the brake. Turning the machine will be found awkward at first. *Never turn at full speed, nor go too sharply*

round a corner, or any machine will capsize. Take plenty of room, see that there is nothing in the way, and have the brake in hand always while learning, in case you find the machine running into the kerbstone before you know where you are. Nearly all beginners who have no one to warn them, capsize their machines and themselves in turning during the first lesson or two. Cultivate a habit from the very first of throwing the body over to the side you are turning to, *before* you actually begin to turn. This helps the machine to keep its balance; but even so the rider must always "slow" before turning an actual corner; and if he is going down a hill at all steep, and has to turn off it round the corner of a street at one side, a capsize will follow anything beyond a walking pace, because the hill itself lowers one side of the machine to begin with. These are all very simple things, the reason for which is instantly understood; but novices never think of them unless warned, until a capsize teaches them by experience. Nearly all trifling accidents in learning (and beginners tip out very gently in most cases) are of this nature; and we have known people duly warned of them have none at all, especially if they have the sense to obey the golden rule of *never attempting to go fast* till they have really learnt to control the machine.

If you do only one mile the first day, you can probably do three the second, five the third, and six the fourth. But we should say, keep to the six until you have well mastered the machine, and until your muscles are so hardened, and chest so used to the exertion, that the six miles can be done in the hour without any fatigue whatever. The craze of "making records" is deeply rooted in the human breast, and is usually found to blossom with the young cyclist about the end of the first week. He thinks he is "all there" by that time, and gives himself airs accordingly; but he gets wiser in a month or two. The only test of a good rider—doing ordinary journeys and not racing—is his being able to ride without fatigue. Should he, for instance, have a mile to go: well, if in form, he has only to mount his machine and he is at the end of his journey. He may have taken six minutes to do the mile, but it has not seemed like as many seconds. It feels as if, after having mounted, the machine took him there of its own accord. Or if he has ridden ten miles, the time has appeared comparatively short, and he is cool and comfortable at the end of the journey, and half sorry to have to dismount. But we must practise riding frequently, if we would become such unconscious adepts. And we must not forget that bad habits are easily learned and difficult to get out of.

Peddalling, for instance, is in reality an art, and

cannot be got up to all in a day, nor in a week even. It is not the centre, but the ball, of the foot we work with, and certainly never the toes. It should be a steady pressure, and not jerky; a stroke that not only the ankle takes part in, but the muscles of the leg and thigh as well. The power should be equally distributed among the muscles. If it was always so, we should not hear so much about leg-tiredness among cyclists. A large number of plain, domestic, country riders never learn to pedal properly, but keep the foot in the same position, and do all the work from their knees, which have far too much rise and fall, and get tired proportionately sooner. The proper method can only be acquired by study and practice, which should be commenced after the first day or two has given some little familiarity with the coarser part of the stroke. When the foot is rising backwards, towards the top of the stroke, the ankle must be gradually bent, so that just before the pedal reaches its highest position *the toe is raised as far as it will go*. This gives the foot some effect (by pushing forward) even before the downward stroke is actually commenced; and as this commences, the ankle is gradually extended again at the same time as the knee, until, when near the bottom, the foot has some power (if need be) of "clawing" the pedal round towards you, though this clawing is only actually used when hill-climbing. But the ankle should always close and open as well as the knees, thereby taking part of the work, and much diminishing the amount of knee-motion. This combined action is essential to powerful and graceful riding, and, as it comes naturally to very few, should be practised slowly at first. At the commencement it may tire the ankle a little, but this rapidly goes off, and the ultimate gain and saving of fatigue is very great. It is true that persons who take to cycling in middle or later life will have lost a great deal of the play of the ankle, which may have become so stiff that the toe cannot be brought really higher than the heel, as it should be at the highest point of the stroke. But even these should utilise what play of ankle is possible to them, and will by this means soon learn to ride farther and with less fatigue.

As soon as you begin to understand the thing, and before any habit is fixed, study *position* carefully. To increase the ankle-action mentioned above, the "scorching" class of riders place the saddle far back, so that they can get a push on the pedals by pulling on the handles. This object is gained; but the bent back is horribly ugly, and in time leads to deformity and ill-health. The best average position for the saddle for most riders, is with the front end of the peak either exactly over, or an inch behind, the crank-axle, while the heel should be just able to touch the pedal, as above stated. The bar-handle should then

be so raised that the hands can rest gently on it without stooping or leaning the shoulders forward. The machine can and should be ridden uprightly and gracefully. Ladies especially should be careful in this respect; for while there is nothing more graceful than a lady who rides *properly*, bad style will make it very much the reverse.

Another bad habit is to bend or sway the body with each stroke. Keep a good seat; otherwise—especially if a lady—the attitude and motions will appear anything but graceful. Bend forward, by all means, when going uphill; but at all other times sit as erect as a grenadier guard.

Never ride hard enough to induce too great a flow of perspiration. This can hardly be avoided on a warm day, perhaps; but in really hot weather one should ride only in the cool of the day. Rushing down a hill at very high speed is extremely pleasant, but it is nevertheless a dangerous pastime. A nut may work loose, the brake may come to grief, or something else occur equally as grievous; then, woe be to the rider! Besides, a rush like this is not good for the machine, though there is nothing to be said against coasting down a hill at a reasonable rate.

“Even,” says a medical rider, “when a fairly good rider, you should not fight too fiercely against opposing difficulties, such as high winds, muddy roads, or pelting rain. Cycling in summer, if health and strength for the coming winter are to be gained thereby, must partake of the pleasurable. No exercise that does not give pleasure is wholesome.”

Cycling for Ladies.—For some years—but these are past and gone—there was considerable prejudice shown, in some circles, against the practice of ladies riding even the tricycle. They may now join their brothers in a tour or ride with other ladies without the most fastidious of British matrons considering it in the least *infra dig*. When we mention that Her Majesty’s grand-daughters favour the delightful pastime of cycling, we believe we have set the matter at rest, as far as this country is concerned.

As to learning to ride, the same rules hold good as those for gentlemen. But a lady must mount her machine more carefully, her dress having to be considered. So mounting is an exercise that ought to be well studied by itself—if possible, from good examples. Dismounting gracefully should also be practised until success is obtained. The steering-bar of a lady’s machine should be only a little higher than the elbows—these being held as close as possible to the side, and not spread out. The seat ought to be most carefully adjusted to the height of the rider; if too low, the exercise is quite fatiguing, to say nothing of the ungracefulness of the position. Except when riding uphill—when she is obliged to bend forward—

the attitude should be erect, and swinging about in the saddle should be most sedulously guarded against. Back-peddalling should also be practised; it is good exercise, and if anything were to go wrong with the brake, this is the only way the machine can be stopped when going downhill.

As to the age at which girls may ride, this will necessarily depend upon their strength; but, as a rule, fifteen will be time enough. Deformities of the pelvis or spine, and even the feet, and various internal ailments which need not be described, have been caused by injudicious and too early riding, besides heart and chest affections.

Children and Cycling.—Every one while on tour has met with, or at least seen, the child-cyclist. You generally foregather with him or her in country villages or in the suburbs of large towns, especially seaside places such as Bournemouth. Not singly either, but in dozens; and one cannot help feeling for the little creatures for whom, from mistaken kindness, some parent, uncle, or aunt has bought “mounts.” And such mounts! As a rule, the old-fashioned bone-shakers were kings of the road compared to some of these heart-stretchers. We do not say that good “children’s cycles” are not to be had; all we advance is that they are too seldom seen on the road. To place a grown-up person on a cycle that is beyond his strength is bad enough; but for a growing child to be incited to ride such a thing is folly, if not indeed positive sin. Sometimes it is his father’s cycle we notice a delicate lad taking exercise on, and this makes matters worse.

We do not hesitate to condemn cycling for children, unless on good machines whose weight is proportionate to them, and under favourable circumstances. Their bones are green and easily bent; their backs are weak, and joints easily put out of shape; and, worse than all, their lungs and hearts will not bear the strain of spurting without injury that may last a lifetime. Young people also generally try to ride all the hills they meet with, which is most injurious. In fact, apart from hills, Dr. Richardson affirms that one mile out of six *ought* to be walked, for the sake of variety in exercise, and to avoid abnormal development of one set of muscles only. This hills, properly walked, will supply; but lads are too apt to “rush” them, from a foolish spirit of emulation. *Verbum sap.*, and parents should be wise in time, and see that their children, if they ride, are properly mounted, and follow the fascinating recreation in moderation, and also only at judicious intervals.

Lest these hints may suggest that they are necessary because of cycling being a particularly violent exercise, it may be well to say that it is precisely the

reverso; what makes them necessary is the fact that it is so *easy and seductive*, as often to tempt people on to an amount of exertion they are not aware of at the time. That is really the chief reason for caution at first and with young people; very soon the grown-up cyclist will have gained enough experience to look after himself; but children are so fond of the exercise, it is generally needful to keep them in check.

Care of the Machine.—Perfect comfort on the road is impossible if we do not take good care of our machine when not in use. Should the bearings get clogged, as they sometimes do, with a stiff amalgam of dust and oil, we cannot expect it to run easily. In such a case run paraffin oil in, and spin the wheels till it runs out nearly clean; then let it dry out, and afterwards apply oil as usual. Never let the machine stand out of doors in the wet longer than can be helped; and on returning from a long run, if wet, wipe it at once, do not leave it till next day. Whenever time can be given for regular cleaning (also done best at the time if possible), a cloth moistened with paraffin is the best, and gets the mud off marvellously. It is so pleasant to have one's cycle ready to mount at a moment's notice, clear of all dust and dirt, and well oiled up. A dirty machine looks abominable on the road; it is quite as bad in appearance as unblacked boots or a yesterday's shirt-front.

Lamps must be used, and by law must now be lit an hour after sunset. They should be kept very clean and well-trimmed, and only the best oil should be used. Colza with one-fourth paraffin makes a good oil. As to lubricants for the bearings, nothing is much better than pure sperm or good mineral oil. But all the advertised oils are good. Beginners usually oil their machines too much. A good oiling about once in fifty miles is enough, and any loose oil should be wiped off with a rag, as it would both collect dust and spoil a lady's clothes. The chain and gear wheels should be occasionally attended to. They may be touched up with a mixture of vaseline and blacklead; but the best plan is to carefully oil each separate pivot of the chain occasionally.

During the winter months, when one is not riding, the greatest care should be taken in housing the machine. It must be well greased, or smeared with vaseline, before it is put away. The storage-room must not be damp, and the cycle should be looked to at least once a month.

Learn to understand thoroughly the adjustment of all the ball bearings, and attend to them occasionally. They should never shake about loosely; on the other hand, while giving no "play," they must never be

so tight that the wheel will not spin easily. And always be sure a band-brake is in order. It will occasionally be necessary to readjust the brake; learn thoroughly how this should be done, and attend to the leather when needed. A good plan is to soak it well in castor oil for several days, and then wipe off. The leather will then be too greasy for several weeks; but, as the oil dries in, it will improve the holding power materially. Never apply powdered resin; but, if more adhesion is necessary, apply with a brush to the leather a little resin, or Canada balsam dried as hard as pitch, dissolved in benzol. After any such application, beware of pulling up too suddenly, or the machine might stop so violently as to "chuck" the rider over the handles unawares.

Benefits of Cycling.—All medical experts are agreed that cycling exercise is most healthful; and will, in many chronic cases of joint or muscular lameness, act as a curative. In his preface to "Health upon Wheels," Dr. Gordon Stables, R.N., remarks:—"Ten years ago, being then in my thirty-fifth year—a proof in itself that one is never too old to learn—I accepted my half-pay and ceased to serve in the Royal Navy, being a martyr to rheumatism contracted abroad. I took to literature as a profession. There was no healing-power in that, but I shortly took to cycling—the bicycle first, latterly the tricycle. Since I have adopted this as an exercise, and thus found a pleasant means of keeping my skin in perfect working order, I have never had a single twinge of rheumatism. Cycling has banished my pains and lightened my mind, and made me physically and mentally double the individual I was on that mournful morning when I left Haslar Hospital leaning on a stick."

A clergyman—only one of thousands such—gave up his grey mare for a tricycle—a saving in more ways than one. Comparing horse and cycle, he says:—"On more than one occasion, with a strong head wind, a miry sticky road plentifully scattered with loose aggravatingly rough and angular stones, I have envied the occupants of a light trap sitting behind a clever pony; but moderately dry roads and calmer skies, with zephyr airs, have dissipated the temporary dissatisfaction, and restored that zest of the cyclist for one of the most fascinating modes of progression that human ingenuity has invented and mechanical skill perfected. Shall I add that since I have become a tricyclist I have parted with my old enemy, lumbago, and feel generally stronger and better than ever before in my life?"

But we could multiply instances of health-advantages derived from riding, even in quite old men. In the vast majority of cases cycling, kept within the bounds of moderation, as presently defined, will

be of benefit; and a great change has gradually, from experience, come over the opinion of the medical profession in this respect. It has been found that the health of women, and girls in particular, has often been very greatly benefited by cycling; and that even in many special ailments, where a contrary opinion might be reasonable and natural (and in which hesitation and watchfulness must always be called for), marked improvement, and even recovery, have resulted from its tonic effects. Many ladies have written to say that "life was a different thing to them" since they adopted this form of outdoor exercise, and that neuralgic pains and headaches, to which they were previously subject, had either vastly diminished or else altogether disappeared. Varicose veins, which so often prevent walking exercise after middle age, have frequently been benefited greatly; though this also is a case in which watchfulness is necessary, and a doctor would have much hesitation until he saw the result of cautious experiment. Gouty and rheumatic constitutions are nearly always benefited; and even asthmatic and some other complaints of the respiratory organs have often been improved, though as often cycling would be contra-indicated. There is perhaps no exercise in which so much depends upon the *personal equation* of the patient—probably for the reason that the change of scene and air have an exhilarating effect, which acts very unequally upon the minds of various people. In cases of sleeplessness, or chronic sluggishness or derangement of the digestive organs, cycling should always be tried, *moderately*, but regularly and persistently; and its effects in these cases are perhaps most marked of any.

But one of the greatest advantages of bicycle or tricycle riding is the opportunity it gives one for change of scene. There is a weird kind of a legend believed in by children who live far away up in the black north, where furnace fires blaze night and day for years, to the effect that if these fires be not put out once in a decade, a fearful monster is generated within them, called a Salamander, and sometimes extends a claw, drags a workman in, and devours his vitals. This is a myth, of course, but there is a monster of another sort, bred under quite different auspices, which is no myth. Its name is Monotony, and it really does, figuratively speaking, devour one's vitality. No matter how charming the place be wherein we live, or how lively withal, if we do not have a *change* now and again, it becomes immeasurably dull. We feel this dulness in the country; we feel it even more so in town, especially when the spring or summer comes in and we know that afar off birds are singing, and flowers springing, and ferns waving green in many a dingle and dell. But the drudgery of the desk's dull wood may keep

us so long in office, that to walk even far enough to see a real tree would be impossible. What joy, under such circumstances, to be able to mount one's bicycle or tricycle of an evening, and go whirling away in a straight line, till soon the city's dust and din and turmoil are left behind us, and we find ourselves alone with Nature! The change is as complete, that is begotten of a ten miles' spin, as if we had been transported to another planet.

And what good may not be born of such a change! Let those praise the city who will, the country has its charms, apart even from its quiet and beauty. If the town be the place for work, for busy-ness and activity, the green cool lanes and daisied fields are the places in which to think, and plan, and meditate. We are alone, perhaps, from a social point of view, but not in reality. We find some flowery roadside sward, we dismount and throw ourselves, gipsy-fashion, on the grass, and at once we become part and parcel of all the joy, all the life and loveliness we see around us. The grass nods to us, birds sing to us, the winds whisper to us as they gently move the drooping larches; all soothe, all lull our spirits into a drowsy pleasantness that is very real, though difficult to describe. Worries and frettings are forgotten, and we wonder that we could ever have permitted anything so mundane as office-work to annoy us.

Great thoughts, too, may and do visit us at such times; and so clear does the mind become, so unclouded the intellect, that problems which in town might have puzzled us for weeks, seem now to work themselves out, or to become developed like a negative on glass under the manipulations of a skilful photographer. The effect of rapid motion in itself seems to clear the cobwebs from the brain, and induce pleasant feelings and happy thoughts. Physiologists would explain this by telling us that in cycling the blood is detracted from the great centres of the nervous system; leaving them to rejoice, as it were, in a kind of new-born freedom. Be this as it may, we all know the calm and easy frame of mind that a good spin begets. We may have left home wearied and worried enough, and cross with everyone and everything around us—feeling "mean," as the Americans express it—and so we continue for a short time. But by the time we have done our third or fourth mile, and settled down to steady pedalling, things begin to look very different indeed, and our minds are soon as serene and unruffled as a mill-pond in the calm of a May morning. Little incidents, too, serve to amuse us when on the road, and the veriest trifles are not without interest; while the ever-changing scenery that we stop every now and then to admire—the hills and dales, the greenery of hedgerows and waving woods, with the wealth of wild-flowers, clustering, creeping, and trailing

everywhere, with, high above, the blue of the sky and the moving clouds—combine not only to render us contentedly happy, but to bring uppermost all the good that is in our nature.

Some of us may be artists, or votaries to the delightful art of photography. If so, what fields for study, and what varied phases of life, the tricycle brings us into contact with! Probably no sort of exercise is more healthful and pleasant than that which is taken with an object in view; and the cycling artist or photographer need never feel the time lay heavy on his hands. There are places of interest on all sides of every town in Britain, so that tours can be varied almost indefinitely. Even the bicyclist may carry necessary apparatus with him, but to a far greater extent can the tricyclist; and that, too, without overloading his machine to any cumbersome extent. As far as sketching with the pencil or with the brush is concerned, it will probably be only small bits that will be needed, so a folding easel can be carried, and everything can be stowed away in either a neat light basket or in a grip sack. Ten or twenty pounds of additional luggage to a tricycle make really very little difference if one be in anything like form, and no one should ride far who is not. Within the last few years the dry-plate system has revolutionised the amateur photographing hobby. It is not now necessary to develop on the road, or to develop at all for that matter. And there are manufacturers who make cameras specially for the cyclist. Some of these are on the instantaneous system, so that groups of figures can be taken with surprising rapidity.

The tricycle has this advantage over the bicycle for sketching purposes—that one can wheel it into a quiet or lonely spot in a wood, or by a river's bank, and sit on it while he works; and if the sun be shining fiercely, an umbrella can always be fastened up to give shade. There is thus no danger of catching either cold from damp feet, or sunstroke. A tricycle is also very handy if one is going some distance to either a lake or riverside, on fishing bent. The basket or bag is easily carried, full or empty, while the rod itself can be so "shipped" as to cause no inconvenience whatever, or it may be carried easily enough under the arm, especially if the cycle be an automatic-steerer. When going on either a sketching or fishing journey, a volume or two of some favourite author should always be taken; then one can read if tired of working, or if the fish refuse to rise. On such excursions one should never make the mistake of going without money. A breakdown might occur when far from home, and to be purseless would be awkward.

Family Cycling.—If there is some male member of a family over fifteen, he may, of course, ride

the bicycle; but very much enjoyment may be had from a couple of tricycles. If one of these be a tandem, ever so much the better. Indeed, whether any youths have bicycles or not, a tricycle and a tandem are decidedly the "plant" for family enjoyment, as either a lady alone, or two, or a lady and gentleman, or gentleman and two ladies—in fact, either one, two, or three riders of any kind—are instantly accommodated. The so-called "convertible" tandems are somewhat of a delusion; they have to be rather heavier, and the conversion is usually a dirty piece of business. With the two machines, delightful little excursions may be got up in the summer season. On the tandem *pater* may ride in front, with a son or daughter behind, or *vice versa*; and in the centre there may be room for a basket containing everything requisite for the day's outing, including food and drink; or the other cycle may carry the basket, and the tandem have a centre seat for a child. Even very young children have great delight in being taken out thus, and there can be no doubt of the benefit derivable from such an outing. There is one comfortable family contrivance, in which the seniors may take the children out for a ride, or even a delicate lady may occupy the front seat therein. It is called a Coventry-chair; and is, in reality, a kind of Bath-chair with a saddle and cycling gear behind, and here the driver sits. This machine may look clumsy, but it is by no means so difficult to propel as might be supposed.

Dress.—The one great thing about this is that it be *all wool*. In summer a flannel shirt, breeches or knickers, with stockings, and a reefing jacket, are sufficient. In colder weather woollen drawers should be worn, and a jersey may be added; but a more comfortable plan is to have a flannel button-up waistcoat made with sleeves, the loose shirt being more comfortable than a jersey next the skin.

The same general rule applies to ladies—*all wool* except the foundation of the skirt, which should be made plain, with sufficient pleats and no more. For underclothing, a well-fitted combination should be worn; what else must depend upon the season, but *all wool*. Young ladies should dispense with stays: those who cannot, or think they cannot, should have a special easy pair with a *minimum* of stiff work in them; a lady *cannot* ride (to enjoy it) in ordinary tight stays. It will soon be found that less clothing than usual is needed whilst riding; but provision should always be carried against a chill, from a sudden change in weather, or while resting after a warm ride.

Shoes are lighter, cooler, and much better than boots every way. They should grip the pedals well; and canvas tennis-shoes with corrugated soles are very comfortable and efficient.

Gloves are the great difficulty, as the hands get warm. No really satisfactory glove has yet been found: and in summer many ladies prefer Lisle thread. In cold weather this difficulty is of course not felt.

When touring, always take one or two changes of underclothing, and never sit with anything damp on. Wear the softest, lightest, and warmest of woollen stockings. Do not over-heat the neck while riding, but carry a small silken comforter to throw loosely round the throat after dismounting. A mackintosh may be carried, but only worn when absolutely needed to protect from a shower. For gentlemen a loose cape about thirty inches long is the best, and can be bought for as low as 5s. 6d. It slips over the neck, and a couple of loops under the front, through which the thumbs are passed, holds it out to the handle-bar, thus protecting the thighs as well. A helmet, hat, or something with a peak, is better than any cap, which has no shelter for the eyes.

Tours.—The craze for record-making and record-breaking is a very foolish one. "I should really wish," says Dr. Stables, "when out for a spin, to meet fewer flushed faces on the road, and fewer hot perspiring brows. Why, the men one usually comes across seem all to pieces, all out of joint and form, and they sweat so much that they often themselves find it difficult to distinguish between their pocket-handkerchiefs and their bicycle rags. This record-making business often does great injury to young men, it is not at the time they may feel it, but in after-life, when, with over-stretched emphysematous lungs, difficulty of breathing, palpitation and sleeplessness, and perhaps early decrepitude, they will wish they had taken more time on the road. The younger the record-maker, the more likely is he to injure his health and constitution."

Dr. B. W. Richardson is equally severe in denouncing hurry. "The idea," he writes, "of our young is speed! speed! speed! They wish to go like the letters of a past time labelled 'Haste! haste! oh, haste!' The end is folly. It is turning a good thing to a bad use; an enjoyment into a slavery; a healthy into a break-down exercise. I know that it would be vain to try to stop competitive riding. I know that by competition the makers of tricycles are enabled to test their machines, and are stimulated to carry out improvements. Yet there must be a limit, or the art will be endangered from the injury it will inflict; and when it becomes a strain on the vital powers, then the injury it inflicts on the life is inevitable. I feel this so much that I lately gave a prize for a fifty mile competition with a sense of compunction which was unpleasant, notwithstanding the most judicious arrangements to prevent

any approach to consequences that may be regrettable."

These words are worthy of being printed in letters of gold, so sadly true are they. Touring must be done *more easily* than many do it, if any earthly benefit is to be had from it. If a man does not mean to enjoy the scenery and beauty of the country he passes through, its trees, its architecture, its hedge-rows and wild-flowers, why does he not take his cycling exercise on the cinder-path, and never leave it? As Dr. Richardson further says:—"The rule not to overstrain the body while riding, by attempting too much, is applicable to persons of all ages; but it requires to be enforced upon the young, who are the most liable of all to suffer from overstrain.

. . . . In order to effect a long ride without severe fatigue, it is good, and even right, to divide the journey into easy stages. From two to three hours is long enough to work at one stretch; and fifteen to twenty miles is long enough for one ride. It is always wise in touring to take the morning and evening for the longest rides; and few enjoyments equal a gentle spin along a pleasant road by moonlight. I do not think it is a sound plan to break suddenly through physical habits bearing on bodily rest and bodily exercise, and I would not, therefore, advise those who have arrived at mature life to alter their times for rest and work very much, out of regard for this new exercise. If they are by habit early risers, I should say, By all means take full advantage of the first hours, and get the prime of the morning for the first ride, get eighteen miles out of the thirty-six in a day's tour. Then six or eight miles may be made in the course of the day, and the remaining ten or twelve when the sun is going down; or, if there be a full moon, after the moon has arisen. By this division, time is afforded as well for rest, as for the purpose of becoming acquainted with the history and character of the localities through which the journey is made."

It may be observed here that the limit of moderation above given would now be too strict. It was written when tricycles weighed eighty to ninety pounds each, and were far less perfectly made, and any rider on a modern machine would average seven or eight miles per hour, with certainly no more, and probably less fatigue, than he would have done six at the time Dr. Richardson wrote. The distances may therefore be increased in that proportion.

Before any one starts on a long tour, he ought to see that he is well prepared for any eventuality, and that he possesses all necessities, accessories, and even a few luxuries. We recommend the following:—(1) All necessary tools. (2) A small repairing outfit for the tyres, and of course a pump. With the old solid rubbers some twine and copper wire

only were enough to hold on a loosened tyre; with modern ones of the pneumatic type occasional punctures must be provided against; and these are now easily repaired. (3) The oil-can. (4) A change or two of clothing; but all heavy things may be sent on before to some station that the cyclist has to pass. (5) Underclothing—especially stockings or socks—a light wrap for the neck, and other nicknacks of dress. (6) The most necessary toilet requisites, and a pair of slippers. And (7) a box of pills.

On the road, do not hurry. Do not spurt, or rush hills. Do not eat while hot, nor ride at once after eating, and avoid stimulants of all sorts. Rest when fatigued. Even five minutes' rest at the right time has a wonderful effect, and may save much suffering in after-life. Sunshine in moderation is good, but on broiling hot days the cycle should not be mounted, except morning and evening; while the hat or headdress should not only be light but properly ventilated. Tea on the road is a delightful refreshment, and seems to have a specific effect in recruiting a cyclist's energies. Unfortunately, it is seldom to be had worth drinking at country hotels.

For this reason some cyclists carry a spirits-of-wine apparatus, and make their tea, gipsy-fashion, by the roadside. Even cold tea without sugar or milk is very refreshing, but more so if a squeeze of lemon has been added thereto. Eggs beaten up in milk make a very nourishing repast on the road; so does soda-and-milk, though with some this is apt to cause eructations. A raw egg beaten up and added to a bottle of lemonade seems a strange combination, but it is both refreshing and wholesome, and many like it extremely. Butter-milk and whey are excellent when they can be had. Eating chocolate, and bovril or other meat lozenges, are occasionally useful. It seldom answers to take a hearty meal in the middle of the day, light snacks or lunches being best, reserving dinner for the evening.

Tandems are sometimes ridden by two ladies on tour; but before going on long journeys plenty of practice should be taken, whatever form of machine be ridden, and the rules of the road should be well understood. It is better for ladies to carry only what is wanted for immediate use, sending on heavier luggage from point to point by train or even parcels post.

EMBROIDERY FOR HOME DECORATION.

WHEN the learner has gained a thorough knowledge of the principal stitches used in embroidery, she can then decide with what materials she may practise her skill and taste. The judicious use of good needlework is a sure sign that the mistress of the home so furnished is "house-proud," while the lack of specimens of this truly feminine art shows either that there is no presiding lady at all, or else that she is one who finds her pleasures away from her home.

She who has the skill and time to do much work might well begin the improvement of her house by putting a little good needlework about in the bedrooms. Here she will find abundant scope for her energies, in the decoration of the window curtains, bed-hangings (if these are used), coverlets, toilet-table slips, cushion and chair covers, and bath blankets—to say nothing of those tasteful odds and ends that are now sprinkled about every well-furnished room. These include fancy pillow-covers, sham sheets, toilet-tidies, night-dress and brush-and-comb sachets, trinket-caskets, and ornamental towels.

Curtains.—For these some material should be chosen that will look as well by night as by day; it

should be soft enough to fall well, and also smooth enough to prevent the dust from elinging. For these reasons, linen fabrics are to be preferred to those that are fluffy and hairy; bourré, moreen, and Kirriemuir twill are as good materials as any to choose for bedroom use. The latter has the advantage of being rather more than two yards wide, and can be had at the low price of 3s. 6d. a yard. Should dark-coloured materials be preferred, there are many tinted linens to be had now that are appropriate for hangings, and these lend themselves well to the use of flax threads. Dark blue is especially effective when worked with white, and there is a peculiar shade of rich brownish-red to be had in these linens that serves well as a foundation for fawn colour and dull yellow, or old-gold, embroidery. Should the needlework be executed with a variety of colours, such a tint as dull grey or fawn forms a good background. Materials composed of a mixture of silk and wool, or cotton and wool, should be avoided if possible, as they rarely hang or wear well. Cloth, serge, velvet, and satin are all good fabrics for embroidery, but in moderate establishments the two latter are more suitable for sitting-rooms, or for portières in vestibules or between folding-doors, than for bedrooms.

In choosing a design, care must be taken to avoid overcrowding, and to eschew imitative floral patterns, the effect of which is entirely lost when the material hangs in its large heavy folds. No doubt this is a hard rule for the worker who prides herself on her aptitude for rendering natural forms, but she must console herself by putting her good work into figures that require a flatter treatment. For hangings, naturalistic patterns are only suitable when they fall almost straight and without much fulness, but this is rarely the case, the main object of curtains being either to exclude air or light. Another point that must be considered in selecting a design for curtains is that of the direction in which it runs; it is perhaps needless to remind the worker that she must notice whether this is "up and down" in style, in order that it may not be reversed in the making up. A good class of design is one which forms a dado along the lower

in depth; but, as a general rule, the hangings and the wall-paper being two such very different materials,

it is better to have the dado either on the curtains or on the wall, but not on both. Should a dado be chosen, a design of conventional flowers and plants, arranged in an upright position, looks as well as anything, and the dado may with good effect be divided into panels, each filled with a somewhat stiff design, such as a jar or vase containing a formally branching plant. Above the dado the curtain may be sprinkled with small but corresponding designs, worked at equal distances upon the material; it is a good plan, especially if a rich fabric be used, to leave the remainder plain but for a band, a few inches wide, which is laid its own width below the top of the curtain. The dado should, strictly speaking, be worked upon a material that is rather darker in colour than the curtain itself, and the groundwork colour should be introduced into



Fig. 1.—PORTION OF EMBROIDERED CURTAIN.

part and a powdering, or flat diapering, above. If the room in which the embroidery is to be used has a dado, that on the curtains must correspond with it

the embroidery. Except for very low-pitched rooms, in which it is necessary to give the effect of height, striped curtains are not in good taste, and this is more

especially the case if the colours chosen are very vivid, as in some of the foreign curtains introduced of late years. The more brilliant the colours of the stripes, the more bizarre will be the general effect when the hanging has to be looped back. Should the worker have a particular fancy, however, for this style of decoration for her curtains, let her try the effect of bands of serge or cloth of two shades of the same colour. Let her sew these together, and hide the seams with a slight openwork pattern worked simply in large back-stitches with wool of a lighter shade of the same colour, or of old-gold silk, and she will find that the result is remarkably good, although very simply managed. The drawing back of a curtain must always be taken into consideration when the choice of a pattern is to be made. Flowing borders in a series of graceful scrolls look well if carried down the edges only, the ground being powdered with sprays.

One of the most satisfactory arrangements was shown by the Leek Embroidery Society at a recent exhibition of the Arts and Crafts Society in London. The curtain itself was of blue velveteen, all over which was printed a flowing yet connected scroll pattern, designed by Mr. Thomas Wardle, Jun., of Leek. In the field the design had been simply outlined with silk of a darker shade of blue, but towards the edges the pattern was more closely covered with stitches of silk of well-harmonised colours. Gold thread with a copper shade in it marked out certain parts of the design, and spangles were introduced where the pattern seemed to require them. The general effect may be judged from the portion shown in Fig. 1. A similar style of work might well be carried out upon one of the many plain linen materials that are suitable for curtains. The design chosen should be "all over," or at least slightly connected, and the central portion outlined with some subdued colour, which, towards the sides of the curtain, may be enriched with many tints, amongst which should be introduced touches of bright colour. A clever worker will find many such designs that she can adapt from wall-papers of good patterns. If she is fortunate enough to have an abundance of leisure, she should take as her model one of the elaborate curtains left to us from the time of Queen Anne. In these the designs usually represent trailing sprays of flowers, leaves, and often fruits, which cover the greater part of the ground, the remaining portions being filled in with darning stitches, much of the beauty of which consists in the "careful carelessness" with which they have been run. The design itself is worked in outline stitch, and filled in with light stitches, which allow the background to be plainly visible between them. Such a curtain as this looks best if worked in various shades

of one colour, instead of a great variety. A pretty effect may be gained by working the ground in the honeycomb network previously described, in fawn colour—the design proper being carried out with several shades of old blue. One advantage of working a curtain all over in this fashion is that the foundation material need not be of a very first-rate quality, provided only that it is sufficiently strong to bear the weight of such a vast number of stitches.

No amateur should select a style of embroidery, either for her curtains or any other large undertaking, that cannot readily be worked over the hand. A frame large enough to be useful for such great pieces would be a sad inconvenience in most private houses. Should it be necessary to make a join in the material, the seams must be run first and the design carried over them; they will then be scarcely, if at all, visible when the embroidery is finished. If the hangings are to be used for the bed as well as for the windows, care must be taken to keep the colours soft and subdued; for, though bright tints are pleasing to many people when in health, in illness they are apt to be distressing, and to add much to the discomfort of the patient.

Coverlets.—Much that has been said with regard to the materials used for the curtains will apply to the coverlet also. The design chosen should on no account be too crowded, or very small: for small patterns are apt to be "busy," and not restful in effect. This must more especially be guarded against when there are other designs in the room. The portion of a coverlet given in Fig. 2 well illustrates this. The design represents poppies slightly conventionalised, and arranged on scroll-like stems. Poppies, as the emblem of sleep, are particularly appropriate to a quilt. On the coverlet illustrated, they are worked in the natural colouring, the leaves being in shades of bluish-green, worked in feather stitch, the stems put in with outline stitch. Notice here should be paid to the use made of the poppy seed-vessels as part of the design, and it is worth while calling the attention of an amateur designer to a very common error made in drawing these flowers. The buds are frequently represented as opening at the tip, instead of, as in Nature, at the end near the stalk. A coverlet should not have its ornamentation comprised in a design which appears to be upside down when viewed from one side of the bed, or from the foot, or near the head; or any decided pattern chosen that only looks well when the coverlet is in one particular position. For this reason, where possible, it is better to have a well-marked centre with an encircling border, or powderings over the middle, at regular intervals, instead of a set design. Care is needed in the use of these powderings, or a too

"spotty" effect will be given, which is far from pleasant. They are most satisfactory on a coloured background worked with subdued tones of colour, which include a paler shade of the material. A considerable amount of trouble is often saved by making the coverlet to match the bed-hangings, and in such a case the window-curtains should be of something

be found very suggestive of rays of sunshine. Another handsome coverlet can be made of alternate squares of linen worked with thread of one shade of colour in a good, bold, tile pattern and of *Guipure d'Art*, or drawn linen work. This is a pleasant piece of embroidery to execute, as the squares are worked separately and joined together afterwards.



Fig. 2.—SECTION OF COVERLET.

quite different, or the constant repetition of the same pattern will become wearisome.

Coverlets for winter use look handsome if they are made of soft quilted silk, embroidered over the quilting with a good bold pattern in coloured silks. A summer quilt could never be found to exceed in beauty one that is worked upon a hand-made linen foundation with clear yellow filoselle or floss. If the proper colour be chosen, it will be found to adapt itself well to any room. Should this have a sunny aspect, it gleams out like gold, without adding to the apparent heat; used in a dark room, it will

If the worker manages carefully, she does not have the entire coverlet to work upon until it is all but finished.

Appliqué may be utilised very effectively for such large articles as quilts and curtains; and the panel for a wall shown in Fig. 3 gives a good idea of the bold effect that may thus be gained. Here the background is cream-coloured damask, the ornamentation being velvet. To manage applied work well, it is necessary to trace the design upon the foundation material, and to draw it also upon a piece of stout cartridge paper. As few things can

look more shabby than appliqué when it sets in innumerable wrinkles, it is advisable to "back" the material that is to be applied to the foundation. If velvet be chosen, and if it is not to be enriched with much embroidery, fine muslin, or even tissue-paper, is all-sufficient for this purpose. For some materials, such as holland or linen, no backing is necessary; and if embroidery paste be lightly rubbed over the wrong side and allowed to dry, it will be found quite enough to prevent the cut edges from ravelling. Very little paste should be used, and it answers best when rubbed on with the finger-tip, as this softens any chance lumps there may be far better than a brush could do. Care must be taken that it does not ooze through to the right side, and it is well to try the effect on a small piece of the material first, in case it should unsettle the colour. If holland or linen be decided upon, the backing material must be firmly and evenly stretched in a frame, the design on the cartridge paper cut out according to the colours and materials used, and its various sections traced on the wrong side of the holland. Then paste the pieces of material down on the right side, with care that the threads of the two fabrics run in the same direction. When dry, the sections must be cut out with a very sharp pair of scissors, according to the traced lines on the wrong side of the backing. They are next arranged on the material, and are held down with overcast stitches placed here and there round the edges, only a sufficient number being used to prevent them from slipping while the work

is in progress. The pieces are now to be surrounded with fine cord, or with a number of strands of silk couched down with securing stitches of the same colour. These fastenings should not be too prominent, but should serve to enrich the work by their

deep, full tones. When linen or cotton materials are laid one upon another, it is advisable to add a good many stitches, or the effect is apt to be poor. Veins of leaves, centres of flowers, and any decided markings on fruits, flowers, or scrolls, should be worked in various embroidery stitches.

An economical way of arranging appliqué, well suited to bed and window hangings, is managed by tracing the same design upon two lengths of linen of different colours—say, blue and white. The pattern is then cut out of each piece. The foundation part of the linen is backed with some thin material, and the blue pattern fitted into the spaces made by the removal of the design from the white material; the white pattern in the same way being inserted in the blue linen. In this manner the bed-hangings may be white with an applied pattern on them in blue, and the window-curtains have the same



Fig. 3.—APPLIQUÉ PANEL.

pattern with the colours exactly reversed. In the South Kensington Museum can be studied some very beautifully-arranged bed-hangings, in which blue velvet and silver brocade are thus counterchanged.

Winter convrepieds and sofa-rugs can be simply made of diagonal cloth of a light shade of colour, slightly worked with outlined designs which tend to a geometric rather than a conventional style.

Bath Blankets.—A similar style of embroidery is suitable for bath blankets, which are never made of any material that is not, like felt or bath coating, impervious, or nearly so, to the action of water. At the same time, but a very slight amount of ornament is required for articles such as these, which have a considerable amount of rough treatment to withstand. Hence bath blankets can be made by any worker possessing even the smallest practical knowledge of embroidery. Outline, occasional feather stitch, and French knots are quite sufficient to produce a good effect. When a design will look well in outlining, it is often desirable to thicken the stitches slightly, to give a bolder result than could be given by a single line only. It is a good plan, in such a case, to work a row or two of feather stitch along the edges of the design. The edges of thick materials, such as those of which bath blankets are made, are better left unhemmed, and should be finished off with one of the many varieties of blanket stitch. This is merely a loose kind of button-holing, and may be arranged so as to contain all the shades used in the embroidery, simply by working the first set of stitches rather a long distance apart, and putting other stitches into the spaces left by these. Tapestry wools are generally used upon these thick woollen materials, and frequently the work is executed with one shade of colour only, very often that of the foundation being chosen for the purpose. This simple arrangement is far more satisfactory than when a great many different tints are selected.

Toilet-Slips and Table-Cloths.—For a bedroom these should always be made of some material that will bear washing well. Linen, sateen, and jean are three of the most appropriate fabrics, and for these either washing filocelles or flax threads are suitable. Should the coverlet and hangings be very pronounced in pattern and colour, it is advisable to use one colour only upon the toilet and table slips, or to work them in Mountmellick embroidery. This is very thick work, executed on white jean with white knitting cotton, so that there is no question of its disagreeing with the colours used in close proximity to it. The stitches required in this work are partly the same as, and partly different to, those employed in other classes of embroidery, but all stand out in rather high relief above the foundation material. It is used also for quilts, and wears and washes practically for ever.

Embroidery in Sitting-Rooms.—When the sitting-rooms have to be ornamented with needlework, the scope for good embroidery is far more extensive than when the bed-rooms only have to be

considered. The curtains and hangings can be of far richer materials, the embroideries upon them also may be more gorgeous in style, though it must be remembered that such hangings serve generally as a background to ornaments, china, or pictures. For this reason the needlework must be executed with subdued rather than with brilliant tones of colour; it is to be supposed that the various knicknacks and fancy articles are more worthy of inspection than the curtains, which should serve more for the purposes of utility than for those of ornament.

Dado and Frieze.—It is now occasionally the custom to arrange either a dado or a frieze of needlework round the walls of a room, but a pattern for such a purpose as this needs considerable care in selection. Those workers who can succeed in the very difficult task of doing justice to the human figure in outline stitch, have a large field for their talents in the execution of a frieze in a processional design similar to some that are placed on certain kinds of pottery. The most satisfactory material for these is rather coarse *écru* linen, worked either in dull red or sepia-coloured thread. The figures should be worked simply in outline stitch, slightly accentuated with closely-set stitches in some places, as in folds of drapery, trees, or hair. When the designs are to be used at a height considerably above the line of sight, as in a frieze, it is a good plan to add touches of gold or copper thread to the needlework in the draperies and other parts, as a pretty and mystic effect is often given by the light catching it unexpectedly, and throwing one of the figures forward. White or pale cream similarly used has an equally good result. Similar figures are well adapted for working on the panels of screens, and the same style of colouring may be followed.

Screens.—As a general rule it may be stated that the foundation for an embroidered screen has a better effect when it is of a lighter shade of the same colour as the framework, than when it is of a totally different colour; but here, as in few other cases, the worker is at liberty to follow her own inclination almost without any hindrance. Here may come in those naturalistic designs which every young worker is ambitious to embroider, and she may fill the panels of her folding screen with representations of favourite flowers to her heart's content. These are usually arranged exactly as they grow, and the very shape of the panels necessitates the choice of tall plants with a tolerably upright habit, which fill two-thirds at least of the space at command. The favourites are lilies, fox-gloves, thistles, hollyhocks, sunflowers, irises, and many others. Chrysanthemums are popular, and are so

varied in colour and form that a four-fold screen may have each compartment filled with differently-coloured flowers—white, ruddy, yellow, and tawny.

Another way of working the panels looks most effective when the screen is three-fold, the centre division being as wide again as the two side ones. Across them all should be traced a trellis-work, embroidered with shades of brown; over this may scramble Virginian creeper, wild roses, clematis, bryony, hops, or any other trailing plants. Another fashion, that looks well in certain frames, is to copy, as well as is possible with stitches, an old chintz pattern, choosing one that is not too flat in treatment. In a Louis Quinze or Seize frame, the embroidery should resemble brocade, and be delicately worked on light-coloured satin with fine silks. The design should consist of graceful trails and bunches of small flowers worked in pale colours, or garlands caught together with loops and bows of very light blue ribbon. Heraldic designs may find a place on the shield-shaped screens that are often stood out in the room wherever required in winter, and in front of the fireplace in summer. The peacock, with his tail formally outspread and conventionally treated, is a popular subject for a screen of this kind, but requires more skill in the embroidery of the feathers than is likely to be possessed by an amateur.

As for the materials that may be employed for screens, it may be stated that they are as varied as the designs. The ever-useful linen is perhaps the least costly; but silk, brocade, and satin, are to be recommended above all others. The fashionable teacup screens look better when the panel is filled with flutings of soft silk, than when a stiffly-stretched piece of needlework is arranged upon them. As any elaborate design would be lost within the folds, a slight pattern in a darker shade of the same colour as the silk will look better, and will give a faint suggestion of brocade with much of its rich appearance. The tiny folding screens that are now-a-days often stood upon a table, to shield the eyes from the glare of a lamp or the fire, cannot have their ornament too delicately executed. They are so readily brought under close inspection, that this is more necessary than when a good general effect only is required. They should be covered with no material more bulky than silk or satin, filocelles should be used for the needlework, and a pictorial design of flowers or fruit, with an occasional butterfly, or even a small bird, will be more appropriate for them than anything more conventional in style.

Mantel-borders.—The mantelpiece is often an important object in a room, and whether it is a fitting field for ornamentation with embroidery is

open to much controversy. Popular taste has decided in favour of needlework in this situation, but it is rarely that an appropriate design is found there. The best class of pattern is entirely conventional, but flowers need not be so much conventionalised as to be unrecognisable except by the initiated. Naturalistic designs are out of place, unless the mantelpiece is of such a shape as to lend itself well to being divided into a series of panels, each of which may be filled with a branch or spray. The best design for a flat band round the mantelpiece is one in which there is a well-defined centre, from each side of which flowing scrolls or floral forms may branch off, dwindling at the ends to a mere tracery of fine lines and curves.

If the panel arrangement be decided on, each division should be different as to design, though they should all correspond in general style and colouring. Very good execution is needful, as, in winter more especially, the mantelpiece is liable to come in for a considerable deal of attention from those who gather round the fire. The colouring selected should not be such as will attract the eye immediately on entering the room, but should be restricted to soft middle tints against a rich but rather dark background. Almost any material may be utilised for a chimney-piece, but rich fabrics have many advantages over those of a poorer quality. The latter are more readily soiled by the dust, and drawn out of shape by the heat of the fire. Plush, velvet, or serge gives the best effect, but the two first materials are not so pleasant to work upon. Applied embroidery is the most satisfactory for such fabrics as these. The design is worked in a frame, upon linen or holland, if the pattern is to be entirely covered with stitches; upon silk, satin, or brocade, if a portion of the material is to be left unworked between the curves. The needlework is lightly rubbed over with embroidery paste on the wrong side, and, when dry, is cut out and caught down to the foundation, as before detailed for ordinary applied work. Although all this involves a considerable amount of trouble, many workers prefer to follow this plan rather than execute their embroidery directly upon plush or velvet.

Above the mantelpiece there is often a straight expanse of wall, which would lend itself well to the insertion of a square or oblong piece of needlework, arranged to imitate tapestry, or an appliqué panel similar to that given in Fig. 3. Should the mantelpiece also be hung with needlework, this panel must correspond with it in general style. Otherwise a single figure worked in outlining, in a similar fashion to the frieze already described, would fill such a place admirably. The tapestry would be, perhaps, more appropriate to the dining-room than to the

drawing-room, and the design should be chosen accordingly. Occasionally the jambs of a mantel-piece are hidden beneath a piece of embroidery. Nothing very fine or delicate should be used here, but rather a strip of appliqué arranged in a flat design of scrolls, and with the colours subdued and rich, but not strikingly brilliant.

Panels of doors, cupboards, and wardrobes are frequently filled in the same way with embroidery; but they require careful workmanship and rather light designs, or the effect is apt to be ponderous.

Piano.—The piano is, at the present time, an article of furniture upon which a great deal of good embroidery is expended. Whether this is correct in taste or not cannot be discussed here, but, being the fashion, it is necessary to devote a few lines to the subject. If a cottage piano be turned with its back to the room, this unsightly expanse has to be covered. The most effective plan is to treat it as a panel, and to arrange upon it a well-executed piece of work in a somewhat naturalistic design, such as would be chosen for a screen, and to drape a curtain of soft silk across the upper edge and down one side. If the front of the instrument be visible, the old fretwork and fluted silk should be removed, and their place taken by silk or satin embroidered effectively, but with fine silks, in an appropriate design. Classical figures work out well, but should be selected as appropriately as possible. On Greek pottery are often seen processions of musicians with their quaintly-shaped instruments, which a clever worker should be able to adapt to her piano-front. No material that is at all bulky should be used in such a position, or it will serve to deaden the sound, and the same disadvantage applies to the use of any thick material for the slip that is now often laid across the top of the instrument. Upon this the embroidery should be concentrated on those portions that hang over at the ends. The design should be purely conventional, broad at the bottom edge, and narrowing gradually towards the top. The side of the slip should only rest along the front edge of the piano, for, should it hang over at all, it will not be possible to open the instrument at the top when required.

A narrow strip of embroidery worked upon silk, lined with silk, and interlined with a double fold of flannel, is now often laid upon the keyboard of a piano, and lends itself well to ornamentation with fine silk embroidery. An appropriate design should be chosen, which bears some reference to music, and this can be worked with satin, outline, and feather stitch, according to the requirements of the pattern. A conventional scroll often looks well in such a situation, especially if it has a suitable motto embroidered upon it.

Chairs.—The ornamentation of chairs and tables with embroidery must greatly depend upon their shape and style, but in whatever fashion they are worked, it must not be forgotten that they are strictly useful, and the decoration must be such as will not interfere with their utility. Fig. 4 shows a small chair of a favourite style, in which the embroidery plays no inconsiderable part. The material is cloth of a golden-bronze colour, upon which are worked small flowers, such as harebells and lilies of the valley, sufficiently conventionalised to remove any prejudice against sitting upon them. Wools of old-world and faded colours were used to correspond in appearance with the supposed date of the chair. Stuffed chairs ever tempt a worker to try her skill at ornamenting their plain square backs and seats; the attempt does not always end in success, owing to the unfortunate liking so many people still retain for designs that slavishly aim at imitating Nature, and yet are used in utterly inappropriate situations. For chair-coverings care must be taken that the embroidery chosen is not such as was in vogue years before the chairs were made. The designer is not likely to fail if she uses a style of *later* date than her furniture, as it may well be supposed that the original covers had become worn, and were replaced by new ones.

A good style of work for the cushions and seats of chairs and sofas is the much-abused tapestry work, which, provided it be well executed in a variety of appropriate stitches, has many advantages not shared by other classes of embroidery. The colours should be soft and faded-looking, so that they reproduce, as much as possible, the dim hues generally found in the genuine and woven fabric. Nothing wears better for chairs and benches subject to constant use; but the evil taste displayed in it some years ago has brought it into bad repute. A new old style of embroidery upon canvas has been lately introduced by the Decorative Needlework Society, of 17, Sloane Street, from whose workrooms were selected, by the kindness of the manager, those illustrations which show the application of needlework to some of the purposes of household decoration. This canvas work was suggested by some that was exhibited at the Tudor Exhibition, which had been worked by Queen Catherine of Aragon, and which, as the original background had been injured by time, had been cut out and laid upon a new material. The cushions on the bench on page 245 are covered with similar work. The designs much resemble the rather stiff representations of flowers with which all who have access to old herbals must be familiar. They have been worked upon Penelope canvas of a good quality with Tussur silk, thus reproducing almost exactly the effect of the original work done by the queen. The canvas is lightly rubbed with

paste, and, when dry, is cut out and applied to dark green velvet with a surrounding of fine cord in the usual manner. This plan may be recommended to those workers who have either little leisure or no patience to execute larger and more elaborate pieces of embroidery.

The cloth on the table in Fig. 4 may be taken as a model, the material, design, and colouring being entirely satisfactory. The material is a good quality of serge—or diagonal cloth, as it is sometimes called—and the embroidered border is executed with gold-coloured silk slightly mixed with silk of a pale



Fig. 4.—EMBROIDERY ON CHAIR AND TABLE-COVER.

Table-Cloths.—The fashion for fitted covers to tables is passed, and the cloths now are all loose, as shown in Fig. 4. For a table that is much used, no material should be chosen that retains a mark made by any object stood upon it. For this very reason plush, that most beautiful of materials, must be avoided, though as a hem or band round the edges of the cloth it will answer very well. When bowls and vases of flowers are to be stood upon the table, the cloth should be chosen of a colour that will not influence those of the flowers. Hence bronze and dull green are two suitable colours for the

cream tint. The edges of the cloth are then finished with blanket stitch.

Washing materials are only suitable for use at afternoon tea; the cloths then laid on the tables should be spotlessly clean—no trace of yesterday's meal being tolerated in a well-ordered household—and ornamented in the most dainty manner possible. Nothing in the way of decorative needlework could be more appropriate to linen than "drawn" work, in which one of the first principles of artistic ornamentation is adhered to by making the decoration part of the fabric itself. In this style of work certain threads of the linen are

drawn out, and others left. The threads that are left are loosened by the withdrawal of the others, and so can be knotted and twined together to make a rough kind of lace, necessarily in a geometric pattern. This intertwining may either be done with linen thread, to match the colour and texture of the material itself, or with coloured threads, according to the fancy of the worker. This class of work is extremely durable if well executed, and, as it washes well, it is adapted

to be followed with the needle. This is to be had in good patterns; but a true lover of embroidery will prefer to follow the more interesting plan of working out the design stitch by stitch from a printed pattern sheet, or a piece of old work. If the material is too closely woven to enable the threads to be easily counted, the embroidery must be worked over a piece of canvas, the threads of which are drawn away one by one after the work is finished. Washing silks,

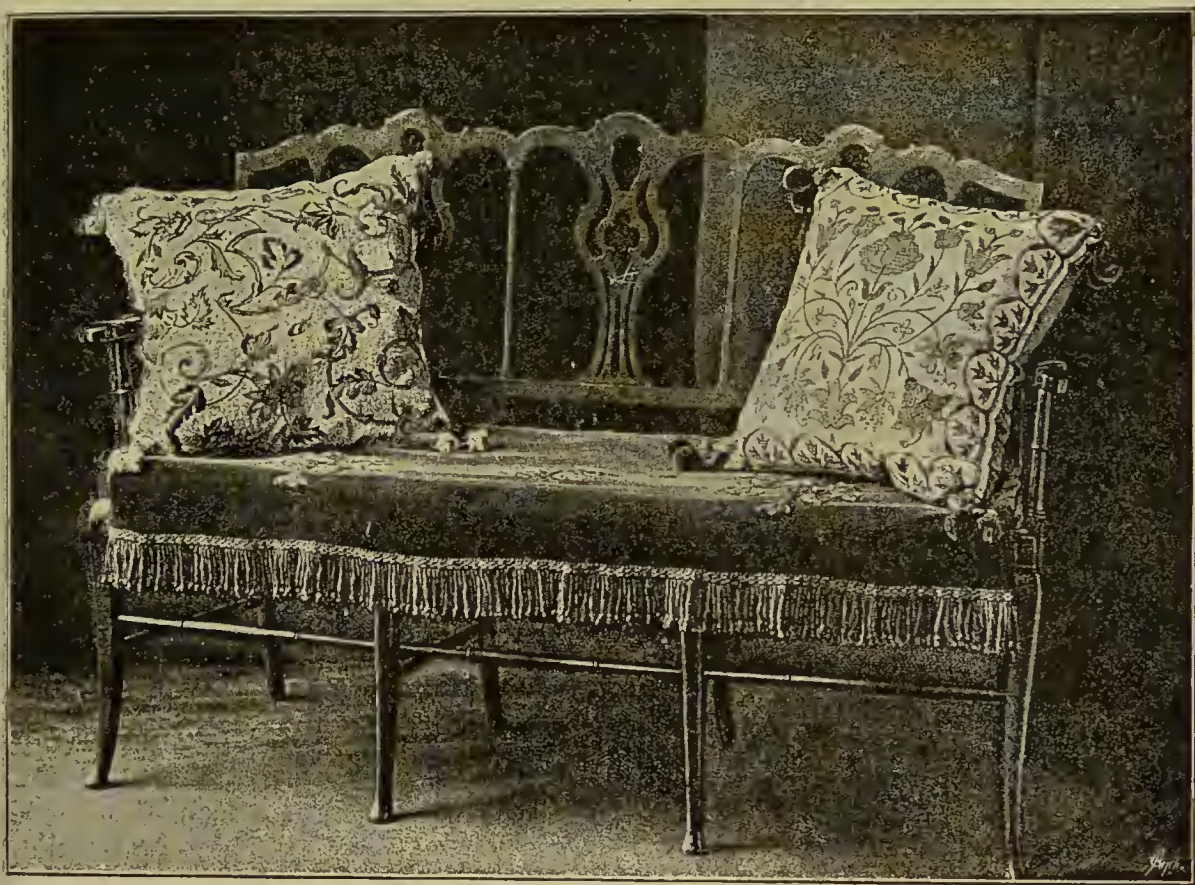


Fig. 5.—CUSHIONS AND BENCH.

to most kinds of household linen. Other tea-cloths can be made in a less elaborate, but more commonplace fashion, of linen worked with washing filoselles or flax threads, with a lace insertion run in about an inch from the edge of the linen, which is itself finished with a lace frill to correspond. The time honoured cross-stitch worked on linen must not be forgotten, and for this there are many specimens of old German, Russian, and Scandinavian embroidery left to us, which would well repay the trouble of studying. Workers who do not care for the tedious task of counting all the threads when working cross-stitch may prefer that class of the work in which the design is stamped on the material, requiring only to

cottons, or flax threads are most appropriate to work with upon linen, and the colours of most of these threads have the advantage of being softened and improved, rather than damaged, by washing.

There are many stitches besides cross-stitch which can be used with good effect upon tea-cloths. Some of these resemble a close plait or cord laid upon the surface of the material; others are worked like herringbone and the more irregular varieties of the stitch. In tea-cloths, as well as in cloths for constant use, it is better to arrange the main part of the pattern as a border than to distribute it evenly over the material. It is always a pity to hide good work beneath the many things that are stood upon a table, and much

pattern has almost always the disadvantage of forming a discord with them. The design should be either arranged to form a regular border round the cloth, or should be concentrated into handsome corners, according to the shape and size of the table.

Table and Sideboard Slips.—Slips for the centres of dinner-tables are always more or less in fashion, and cannot be too delicately embroidered. An elaborate border with slight powderings over the ground has a better chance of being seen and appreciated than a full design carried all over the surface of the slip. Soft shot Surah forms a good foundation for these, and never looks better than when bordered with a deep plush hem of one of the two colours of the silk. Another good material for this purpose is Tussur silk, and this should be worked with raw, or Tussur embroidery, silk intermixed slightly with gold thread. The edges will require no addition of lace or fringe. Much that has been said respecting tea-cloths applies also to sideboard cloths. They may be made of linen worked with flax threads, or with washing silks, or of some of the more fanciful materials prepared for the purpose. The design should be so arranged that the main portion of it is upon the ends of the cloth; for as they hang over the sideboard they are more conspicuous than the other parts, upon which much work would be concealed under the plate and other things that are usually stood upon a buffet. A narrow running pattern is often an improvement to the edges of such a slip, but the ends require finishing off with a deep fringe ravelled out of the material, and knotted at intervals to make a heading. A particularly good arrangement of colour for such a cloth is the combination of white and *écru*. The cloth may be *écru* with white embroidery, or the opposite use of the colour looks equally well. Now that gold thread is made to stand washing without damage, it may be very effectively used for such purposes as this.

Cushion - Covers.—Covers for cushions lend themselves to decoration with embroidery in an infinite number of ways, and almost every material, provided that it is soft, is available for them. This softness must not be lost sight of, whatever be the decoration chosen, for ease and comfort can scarcely be suggested by many French knots, spanglos, beads, or by a wide expanse of gold thread. In the illustration on page 245 are shown two small cushions that are treated in a manner with which even the severest critic could find no fault. That to the right hand of the reader is covered with cream-coloured linen, the very softest of silks being used for the embroidery. This is arranged in a strictly conventional design, worked in what is commonly known as

"laid" work. The colours are somewhat peculiar, greyish-blue, green, and various shades of terra-cotta predominating; but they are arranged so that no one tint stands out beyond its fellows. The other cushion is worked upon a cream-coloured twill, and is much enriched in appearance by a stitched wavy pattern, which is put in with gold-coloured silk all over the material between the outlines of the design. This is done in imitation of quilting, and is usually back-stitched, though for larger and coarser pieces of work chain-stitch gives a bolder effect. The embroidery on this cushion is carried out with the ordinary flat stitches in many different colours, the chief of which are gold, terra-cotta, and a rather bright orange-red, which is sparingly used, but tones in well with the other and more subdued tints.

Lately, pongee and other soft silks have been used for cushion-covers, and are generally embroidered with different shades of the same colour as the background in a close stitch known as "Oriental" stitch. This is merely a variety of herring-bone worked very closely, and so that only a thread or two of the material is taken up with each stitch. It gives a sort of plaited appearance to the work, but is only suitable for small designs, as the stitches are apt to set too loosely when they are carried across a large number of threads of the fabric.

Another fabric that is eminently suited for cushion-covers is brocade. This should be selected with a pattern woven in it of the same colour as the background, any additional colouring being given by the embroidery. The design for this should resemble in general character that upon the brocade itself, and should be traced upon it without being in the least degree influenced by it. The colouring should not be too much subdued, or the design of the foundation brocade will overpower that of the embroidery: gold thread should not be omitted. Some makes of this gold have the metal twisted round a core of soft red thread. For embroidery on brocade, this ruddy gold has a richer, warmer appearance than the more yellow kinds. A suitable design for a cushion upon which an "all-over" style is advisable is shown in Fig. 6, and was copied from a richly-embroidered gown worn by Queen Elizabeth in one of her portraits at the recent Tudor Exhibition. The background is of linen, and the design, worked in wools, is floral in character—the Tudor rose, pansy, and honeysuckle forming prominent features. The scrolls and stems have had additional lightness imparted to them by the use of a broken stitch, showing the background at intervals, instead of the more commonplace close filling. Large flat spangles are sprinkled over the ground at intervals between the stems, and are held down with invisible stitches of gold-coloured silk.

A pretty cushion for a small couch may be made of two square pieces of éru holland, each worked fully with a small trailing pattern of leaves and flowers in two, or at most three, shades of golden-brown silk. The cushion itself is edged all round with a loose puffing of golden-brown pongee. Down two opposite sides of each of the square of holland are worked a series of ornamental eyelet-holes. The covers are laid upon the cushion, and are laced together by a fine old-gold cord, which is passed

frayed by use. Applied work is not suitable for cushions, for, although not so in reality, it is apt to convey an idea of hardness, which renders it more suitable for wall or panel decoration.

Footstools.—When well designed, footstools are good subjects for embroidery; but it is very necessary that they should not be of the same scheme of colour as the carpet upon which they are to be used. No attempt at a naturalistic effect should be made, so



Fig. 6.—ELIZABETHAN DESIGN IN EMBROIDERY.

backwards and forwards through the eyelet-holes and across the puffing at the side of the cushion. The ends of the cord are finished with tassels made of the same silk.

Amongst fancy cushions the bolster shape is the most generally popular, and, as only a small piece of embroidery is needed, this should be of a very good description. No material is better than satin, especially as it blends well with the plush with which these cushions are generally made up. The embroidery may be arranged as a narrow band placed diagonally across the bolster, or as a deep point or vandyke for one end; or, again, as a straight but wide band round the middle. A twisted make of silk is the best to use for cushions of this sort, as it is less likely to wear rough, and to become

that applied work or woollen embroidery upon cloth or serge is suitable. A conventional and unshaded design is the most pleasing, while there are many geometric tile-like patterns that would look well in such a situation.

Anti-macassars or Chair-backs.—These are, happily, far less plentifully sprinkled over the chairs and sofas than was the case some few years ago; and now that the reign of pomatum and bear's grease is at an end, there is no longer any reason for making them of some washing material. The few that are used nowadays are generally made of soft silk, lightly puffed, and often draped across the top of the chair, the embroidered ornament, if it exist at all, being limited to the ends of the chair-back only. A straight

border here, about four to six inches wide, is all that is necessary, for any further embroidery would be entirely lost among the many folds. The Oriental style of embroidery, before alluded to, is eminently suited to chair-backs of soft foreign silk; a more novel style is arranged of printed silk, the lower part of the design upon which is covered with stitchery in many-coloured silks, the remainder being either left quite plain, or worked with one colour only. Printed Tussur silk is specially suited to such embroidery.

Drapery for Easels.—The long scarf of soft silk with which it is the custom to drape a picture resting upon an easel is an excellent subject for a small and delicate style of needlework, which, to be in correct taste, should be executed with a darker or lighter tint of the colour of the background. A diapered pattern, or a design resembling trellis-work powdered with tiny sprays, is more appropriate than a very bold or elaborate arrangement, the effect of which cannot be seen unless the scarf be drawn out to its widest, which is impossible in the use to which it is applied. Certain colours look even better when worked with white or cream silk than with a darker shade of their own tint, and a charming effect may often be gained by fine work in sepia upon a foundation of pink.

Artistic Trifles.—No particular style of design or execution is more appropriate than others to those pretty fancies in the way of pincushions, vide-poches, fans, and similar trifles, which are at the present time so lavishly scattered about a fashionable drawing-room. With book-covers, the case is somewhat different, as the design should always bear some reference to the contents of the volume upon which it is displayed. Blotting-books, when their covers are embroidered, may well be decorated with heraldic designs, or with the monogram of the person to whom they belong.

Ironing and Stretching.—For finishing off a piece of embroidery, the amateur must beware of an excessive use of the flat-iron. Should the work by any mischance have become at all drawn and puckered in the making, this will be remedied by no amount of ironing, the only result being the injury of the colours and the flattening of the stitches. The best way of finishing off good embroidery, provided that the material will allow of this method of treatment, is to damp it evenly on the wrong side with a sponge moistened with cold water, and to pin it out quite straight and smooth upon a large board covered with flannel. Here it should be allowed to remain until it is perfectly dry, when, if it has been properly executed, the work should be quite flat and

free from wrinkles. Certain kinds of embroidery are improved by being thinly smeared on the back with paste; this is always necessary in the case of work that has to be cut out and applied to other materials, as it will effectually hinder the cut edges from ravelling, and prevent the work from wrinkling when it is laid upon the second material. It should be remembered that pasting will not have the effect of making bad embroidery better, and that it will not do away with any slovenly display of ends of wool or silk that may be left on the wrong side. No good worker will use a knot in joining a fresh needleful of thread, and when feather-stitch, more especially, is being worked, will often run the thread in upon the right side of the material, so that it is quite hidden by the stitches.

To Wash Embroidery.—An objection often made to crewels on washing materials is founded upon the belief that they will not bear cleaning well. This is quite a mistake, although there is no doubt that much depends upon the manner in which the washing is done, and upon the quality of the wools. If these are good, they will not be injured by washing in ordinary soapsuds; they should be rinsed, not wrung, and, when partly dry, pinned out flat and straight upon a board. Should there be any doubt about them, the colours will usually be found to be fast, if the work is washed in a lather made by boiling water with a quantity of bran.

The Use of Trimmings.—It is always a mistake to finish off embroidery with cords, fringes, and tassels, when it is possible to do without them, for they are apt to detract from the beauty of the work, and to draw attention to themselves rather than to the stitchery. Fringe, if it be required, should be made of the threads of the fabric itself, a few strands of the silk used in the embroidery being added if colour be desired. Cord can be arranged by plaiting together a sufficient number of the threads to make a three-, five-, or seven-ply braid. Tassels, too, are in better taste when they are thus made, than when they are more elaborately contrived by trimming manufacturers. Work upon woollen fabrics never looks better than when finished with a simple row of button-hole or blanket stitch, arranged either straight or in a series of scallops or vandykes. The material beyond the edges of the stitches should be cut away. Linen embroideries should be bordered with thread lace, or with an openwork edging made by button-holing the outlines of a lace pattern, and cutting the linen away from between the intricacies of the design after the work is completed.

ORNAMENTING SWEET DISHES.

WHEN we look into a French pastry-cook's window, and see the wonderful ornamental sweets therein displayed, we are apt to think that it requires years of practice and enormous skill to be able to make even a feeble imitation of such delicacies. In reality, ornamental sweets are much simpler than ornamented *entrées*. A great deal depends upon the apparatus we have at our disposal; and here we come to one of the chief causes of difference between English and French cookery. A Frenchman of moderate means would think nothing of spending in what we might term kitchen furniture a sum of money at which an English gentleman would stand aghast. On the other hand, an English gentleman would furnish his library in a way which, considering his means, many of his French brethren would consider the manner of a lunatic. What we want is the happy medium. In most English kitchens there is a total absence of all helps to *ornamental* cookery, with the exception, perhaps, of one or two moulds for jellies and puddings.

We will commence our description of ornamental sweets and pastry by showing how to make two ornamental dishes rarely met with in this country; but as these dishes will be a type of a large class of similar ones, it will be as well to enter somewhat minutely into detail. In almost all ornamental work it is necessary to have a base upon which to operate. In many of those ornamental stands which look like marble, but which, in reality, are made from mutton fat, the interior is often a plain block of wood. The mutton fat is then placed over it, and the skilled artist gradually forms a stand; the fat is moulded, and by degrees worked into little leaves and bunches of grapes. This work cannot be described in writing—the only way to learn how to model ornamental baskets in fat is to see a first-class man do it. One of the finest artists that ever exhibited in this country is M. Benois; and to illustrate what can be done in this way, you may imagine a splendid Parian marble vase, which you may look into and still think marble. The vase or stand for fruit or flowers is composed of nothing else in the world but hard mutton fat that has been boiled and allowed to get cold. Many persons, in visiting the annual exhibition of French cooks, which takes place usually at Willis's Rooms, leave the building ignorant of the fact that these exquisitely-carved baskets and stands are anything but real marble or alabaster; and probably were they told that they were made of mutton fat, they would be as incredulous as Dr. Johnson was about the earthquake at Lisbon, though he thoroughly believed in the Cock Lane ghost. As we have said, however, this highest development of

the cook's art can no more be taught than, were you to take up a book on sculpture, buy a block of marble, a chisel, and hammer, and, with the mere assistance of the book, attempt to carve a Venus, your success would be assured.

Gâteau.—There is, however, a dish which, when completed, looks extremely beautiful, and yet is within the compass of any amateur of moderate intelligence. Whether, however, Mary Ann—who, to say the least of it, is as a rule extremely in-artistic—can grasp the subject is more than we can say. First of all we want a base, and for this take an ordinary common pie-dish, and then make in it a pudding as follows:—Get some pieces of stale sponge cake—or, better still, macaroni and ratafia—and soak them in some sweetened rum; only, remember, don't get them too soft. The reason of this is that they will be component parts of what ought to be a stiff pudding, and if these pieces of cake, &c., are made too large and too moist, it weakens the consistency of the pudding, and the whole will be apt to break. Now make a stiff custard, of a proportion of about four eggs to half a pint of milk, and flavour the custard with peel of lemon by rubbing lumps of white sugar on the outside of the lemon. Here, in passing, let us call attention to a very important fact in cooking in regard to eggs. We will imagine that we are in some quiet country spot—"far from the madding crowd"—where, among other luxuries, our eggs are brought to us warm from the nest. You will remember, on cracking one of these eggs for breakfast, how often the remark has been made, "The egg is milky." Just think for one moment what the result would be, were we to attempt to make a stiff pudding out of eggs which, when boiled, are milky instead of hard. In making a pudding which it is necessary should turn out firm, absolutely new-laid eggs are undesirable. However, this caution is, unfortunately, rarely necessary, especially in London; but the matter is worthy of notice, as a very famous French cook, who was sent for to assist in the preparation of a dinner to be served before His Royal Highness the Prince of Wales, told us personally that he had had one or two failures on this very account; the host and hostess, in their anxiety that everything should be of the very best, had given orders that the eggs supplied to him should be new-laid, and they consequently failed to answer the purpose for which they were intended—viz., to stiffen the article made.

This custard, which must be made very sweet, should be poured into the pie-dish, the moistened but not too much softened cake and macaroni added,

and the whole baked in the oven until the pudding sets firm. When it is set firm, take it out of the oven, and let it get cold. Having got cold, turn it out bodily, like a mould of jelly, on to the dish in which it will be eventually served—we will say, an oval cut-glass dish. It is very important to get the pudding exactly in the centre of the dish, as otherwise, if you attempt to move the pudding, you will be apt to break it. In order that the pudding should turn out more easily, it would be as well, at starting, to butter the bottom of the pie-dish, but do not butter the sides. This pudding now forms the base for our operations, and a better base cannot be imagined than the shape we have described, which is like a slice of a pyramid, with the broad base downward. Next take a bottle of jelly—any jelly will do, either orange or lemon—and place it in some hot water till it is partially melted. Half fill a breakfast-cup with this jelly, and then add sufficient caramel to make it a dark brown. A good deal of caramel will be necessary, as we shall see hereafter. If the pudding is perfectly cold, you can commence operations, but not till then. If it is summer-time it greatly facilitates matters to place the pudding in an ice-chest. Now with a spoon—a dessertspoon

is best, as you do not want to pour too much at once—you pour this brown mixture over the pudding, commencing in the centre at the top, and working away slowly to the sides, a little at the time, so that the jelly sets as it runs. This is merely a question of patience. The cup containing the brown fluid can be placed in a pie-dish of hot water, so as to keep it liquid—but only *just* liquid; otherwise it will not set at all, but trickle off the pudding, and afterwards set in the bottom of the glass dish, where it is not wanted. If the pudding is icy-cold, and the brown fluid only barely lukewarm, you could take a tablespoonful, and slowly pour the mixture over the top of the pudding, moving the tablespoon backwards, and the whole would set as you pour it. By this means you gradually cover the whole of the base or pudding with this brown mixture, till it looks like a solid block of dark polished rosewood. In doing this, of course, some of the brown fluid will naturally trickle on to the side of the dish, and set. Cut the edge of the pudding round with a knife, then all the edges round in the dish can be taken up, and if necessary can be re-melted. You must go on, at

any rate, till the whole is coloured uniformly, for it must be “all over alike.”

We now proceed to ornament the top in the following different manners:—Take some almonds and blanch them (*i.e.*, throw them into boiling water, rub off the skins, and then throw them into cold water to prevent their turning colour). Now with the finger and thumb split the almonds in half. You will find they will split of their own accord by pinching them and moving the finger and thumb sideways. Next take some green angelica and cut it into slices about the same size as the almonds. Place these round the edge alternately, close together. The white and green will be found

to alternate very prettily. The centre can be ornamented with four almonds and four stars of angelica, as shown in Fig. 1.

The almonds and angelica stick easily to the jelly; and if the jelly is set, they can easily be stuck on by holding the bottom of a hot spoon for a second to the jelly to make it give. The spoon will be sufficiently heated if simply dipped in boiling water.

Another way of ornamenting this dark brown surface is to just moisten the jelly at the top sufficiently to make it sticky, and then to sprinkle

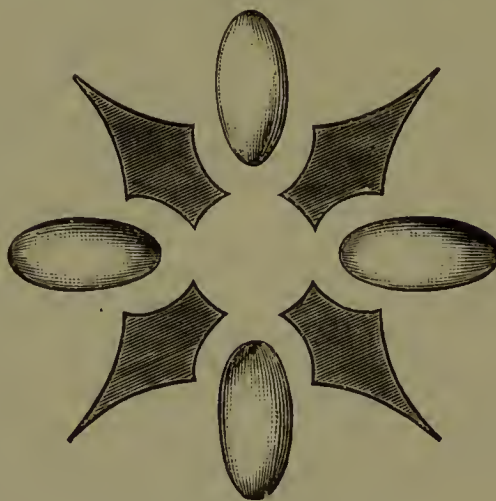


Fig. 1.—ALMONDS AND ANGELICA.

over it some coarsely-sifted white sugar. The little pieces of sugar must be about the size of very small pearl-barley. This can be further ornamented by being sprinkled with finely-chopped green angelica. This sweet, which is known as *gâteau au rhum*, is not only pleasing to the eye, but equally pleasing to the palate; and if you put sufficient rum, it will always be found to be very popular.

A still prettier mode of decoration is the following:—In making the pudding originally, take care that the custard is very thick before you pour it into the pie-dish. Make the pie-dish hot in the oven, then butter the bottom, pour in the custard, afterwards putting in the bits of cake soaked in sweetened rum. The hot dish will cause the custard to set all round the edge before the pieces of cake have time to sink to the bottom; consequently, when you turn the pudding out, there is no appearance of cake, but it looks like a solid custard of a uniform yellowish-white colour. Now take the bottle of jelly, and simply mask the top surface with the bright jelly. This makes it look, indeed, extremely pretty. Next open a tin of apricots or preserved pine-apple.

The apricots look the prettiest; the pine-apples taste the best, as the flavours of pine-apple and rum always go well together, and always have done since the days of the Rev. Mr. Stiggins. Drain off the juice from the fruit, and place the apricots side by side, with the concave side uppermost, on the top of the pudding. A slice of green angelica must be placed between each, and a red preserved cherry set in the centre of each apricot. A little raised ornament can be put in the middle, composed of two half apricots, the first one set with the convex side uppermost, and another one placed on it like a cup with the concave side uppermost. Little strips of green angelica, and two or three cherries, can be arranged in this little cup, which looks something like a bird's-nest. If the dish is large, another row of apricots with angelica between them, and red cherries in the centre of the concave part, can be placed round the edge. This is really a very pretty dish. The pure white pudding, covered with the clear jelly, looks truly elegant; and the pale yellow of the apricots, just relieved by the green and red, always has a very good effect. This ornamental sweet looks best when served in a large massive *silver* dish, in which case a sheet of white paper should be placed at the bottom.

We would strongly urge ladies who are fond of making ornamental sweets to try the recipe here given. There is no possibility of failure if you carry out exactly the directions we have set forth, and the dish will well repay you when finished. It is not a sweet so much adapted to children's palates as that of grown-up persons, and as a rule, to please these, the sweets must be very good indeed, or they are useless. Elderly ladies and gentlemen, who have for many years not only lost, but almost forgotten, their taste for seed-cake, ginger-beer, and toffy, will revive like giants refreshed at the sight and taste of a good *gâteau au rhum*.

Blanc-Mange.—A very pretty sweet rarely met with in reality, though often in name, is blane-mange. We frequently find blane-mange put down on a bill-of-fare, and then we get some out of a white mould, which is no more blane-mange than corn-flour pudding is blane-mange—indeed, we have known corn-flour pudding flavoured with essence of almonds served as blane-mange. The beauty of blane-mange is that it should properly be a semi-transparent opal. Many people believe that blane-mange is a sort of cream; the slightest addition of cream would spoil it. We will describe how to make the real blane-mange, which appears to be a thing of the past. First take three-quarters of a pound of ordinary almonds, sometimes known as Jordan almonds, and two ounces of bitter almonds; blanch them in boiling water,

rub off the skins, and place them in cold water for half an hour to get perfectly cold. Now pound them in a mortar, with a quarter of a pound of sugar, until you get them perfectly smooth and soft. They must not in the least degree be lumpy when touched with the fingers: in fact, the paste must be as smooth as butter. Then put them in a basin with three-quarters of a pound of white sugar and about a pint of water. Cover the basin over with a cloth, and let it stand in a cool place for about a couple of hours; then strain the whole off through a cloth, and press the cloth well, so as much as possible to extract all the goodness from the almonds. Now mix this with two ounces of dissolved isinglass, and pour the whole into a mould till it sets. When it has set quite firm, turn it out on to a dish and serve. This is a very different blane-mange to that generally met with—in fact, real blane-mange is simply sweetened almond-juice that has been made a jelly—or, as French, cooks say, milk of almonds.

Ornamenting Puddings.—A great variety of puddings can be ornamented by pouring over the top a thick brown mixture, similar to that described as being made by colouring melted jelly with caramel. Of course, if the puddings are hot, there is no occasion to have any jelly at all. The simplest way of making a brown sauce to ornament an ordinary pudding is to mix a little drop of arrowroot or corn-flour in a cup, sweeten it with three or four lumps of sugar rubbed on the outside of a lemon, and then sufficient caramel to make it a dark brown. It is a very great improvement to add a little brandy to this sauce. Rum answers the same purpose as brandy, and by many it is preferred, as the rum combines with the flavour of lemon. If you have no spirits at all, a little drop of sherry is better than nothing. This sauce should be made very thick, so that if a spoonful of it be poured over the top of the pudding, it would stay on the top, and not run down and trickle into the dish. In fact, the sauce should be very similar to treacle, both in consistency and colour. We do not refer to the modern treacle known as golden syrup, but the honest black treacle we met with years ago, and which is not so easily obtained in the present day as it might be. The fact is, we live in an age of adulteration and hypocrisy.

But we will return to our puddings, which, as we made them ourselves, need not be adulterated. Suppose you have, say, half a dozen small college puddings; a spoonful of this brown sauce poured on the top of each very much improves the appearance of the dish. But then something more is wanted besides the sauce, and that is a sprinkle of coarsely-sifted sugar, which will stick on the brown sauce and yet remain white. This *coarsely*-sifted sugar is

very useful, and cooks will find it a great convenience to have a jar by them. Of course, finely-powdered sugar is an every-day want, and it is best made at home; and the coarsely-sifted sugar can be made at the same time. Take a large pestle and mortar, and pour some sugar in it, and then sift the sugar in a fine sieve. Now take a coarse wire sieve, throw the pieces that remain in the fine sieve into this, and shake it. By this means you will obtain a number of little tiny lumps of sugar, none of which will be too small, or they would have gone through the first sieve, and none of them too big, or they could not have gone through the second. It is only by this means—viz., by two sieves—one of which is a good deal coarser than the other, that you can obtain a number of little lumps of sugar all nearly the same size. This coarse sugar can be coloured red, green, or yellow by pouring a few drops of vegetable colouring in a saucer, and shaking the sugar in it. If the pudding is masked over on the top a dark brown, a little sprinkle of white sugar, and then a sprinkle of the same coloured green, has a very good effect. A very little is sufficient to improve the appearance of the dish. If you put too much sugar, it spoils the appearance, as you want to see the dark brown base between the little pieces of sugar. Consequently, if you have, say, half a dozen college puddings, the quantity of sugar that would cover a threepenny-piece would be amply sufficient for each pudding. An over-ornamented dish is as vulgar as an over-dressed woman; and we all know what that is.

Most puddings are improved by the addition of a little sweet sauce. Good brandy sauce is made by adding to some really rich butter sauce some sugar rubbed on the outside of a lemon, some brandy, and a little grated nutmeg. It will also be found a great improvement to add a little drop of rum. Good brandy sauce—flavoured with lemon, remember (*i.e.*, *zeste* of lemon, not lemon-juice)—will taste better if the spirit be composed of four parts brandy and one part rum, than if it were made with brandy alone. Of course, the secret of the goodness of this sauce is the butter; and when this is handed round with a rich plum pudding, there are few sauces to equal it. Still, there is nothing in this sauce that assists us in improving a dish in *appearance*. There is a sauce, however, similar to this, which, though infinitely inferior so far as *taste* is concerned, is as superior so far as *appearances* are concerned. The sauce to which we refer also has the advantage of being far less rich, and, if made without any spirit, is one of the best sauces in the world to serve with children's puddings, as it is very sweet, very pretty, very wholesome, and very simple. Rub a few lumps of sugar on the outside of a lemon, and dissolve this

sugar in some boiling water, which should be made very sweet. Now thicken it with a little corn-flour till it becomes of the consistency of thin custard, and then add sufficient cochineal to turn the whole a bright pink colour. Of course, this sauce is perfectly transparent and bright, and may be made to resemble in colour one of those gigantic useless bottles which chemists show in their window to advertise their calling. If intended to be served with plain puddings for children, a little lemon-juice should be squeezed in the water before it is thickened, when, if made sufficiently sweet, the sauce will be very nice.

Suppose, now, we have a plain boiled rice pudding, or a plain boiled batter pudding boiled in a basin. You turn the pudding out of the basin on to a dish, and, as a rule, send it to table just as it is. Just think of the difference, so far as appearances go, that is made by pouring some of this bright pink sauce over the pudding. The sauce should be made in some quantity, so that it runs into the dish like pink gravy. A batter pudding for half a dozen persons would require quite half a pint, or rather more. Now, what is the cost of this sauce? Next to nothing. And yet the difference in appearance is enormous. This same sauce can be made on a higher scale by adding brandy and rum in the proportions before named—viz., one spoonful of rum to every four of brandy. Of course, the spirit makes the dish much more expensive, but it is exceedingly nice plain, and as it takes very little trouble to make, it should be served much more often than it is.

Suppose, again, we have a late dinner for four persons at seven o'clock; what a very common thing it is, when these four persons consist entirely of members of the family, to have a plain baked custard pudding sent to table in the pie-dish! We would suggest the following idea:—Cut out this small baked custard with a very thin worn-out old knife. If the blade of the knife be very thin indeed, it will cut round the bottom of the pudding where the bend of the dish comes. Now place a glass dish upside down, and turn the pudding out, pouring over it a little of this bright pink sauce. The pudding is now a different thing altogether, although it is the same pudding, to use an Irish expression. Still, if you were to make two puddings, turning one out on to a well-cut glass or silver dish, and then, pouring some pink sauce over it, placed it side by side with the other pudding in the pie-dish, with its blue rim and brown smudges, you would see what a marked contrast there was between the two; and this contrast affords an excellent lesson to teach cooks how much can be done to improve dishes in appearance simply by taking a little extra trouble; for, remember, as we

said before, the *cost* of this sauce is almost nothing.

Cochineal.—Cochineal is extremely valuable to improve the appearance of a vast number of dishes, and we will illustrate this by describing that common dish, stewed pears. Stewed pears make a very nice dish; but a very ugly one were it not for the assistance of our friend the cochineal bottle. The mistake too often made with stewed pears is that the sauce is a good deal redder than the pears, whereas it ought to be the other way. When the pears are stewed tender, they should be rendered pink by being steeped in a little of their juice coloured a very bright red indeed with the cochineal; and they should be allowed to soak in this strong colouring matter quite twenty-four hours. This will make the pears themselves red; then the remainder of the juice can be added.

A very delicious sweet is made by opening a tin of preserved pears, and, taking the juice that is in the tin, clearing it with some white of egg well beaten up with a little water, straining it, and adding sufficient gelatine or isinglass to make it a jelly. A few cloves can be boiled in the jelly while the gelatine is being dissolved, a few lumps of sugar, rubbed on the outside of a lemon, being also added. When the jelly is nearly cold, but, of course, not set, colour it pink with a little cochineal; then add *two* glasses of port wine, and remember, in putting in the gelatine, you must allow for this. Now take a large jelly-mould, then the pears themselves, and place the pears round the mould, so that when the mould turns out the thick part of the pear will be downwards. Pour the jelly into the mould, and let it set; if possible, embed it in chopped ice and salt before you turn it out, as, owing to the presence of the pears, which are soft, the jelly has a tendency to break in the turning out unless it has set pretty stiff. When the jelly is turned out on to a glass dish—the bottom of which should have a piece of ornamental paper—it looks very pretty. The base of the mould can be ornamented with a few crystallised pears, which are in keeping with the dish, placed alternately with a little cut lemon; or, still better, if it be spring-time, with little sprigs of pear-blossom put between each, each little sprig of blossom being set on a dark green leaf of the pear-tree. This dish is not only pretty to look at, but delicious to eat, and appeals equally to the palate and the eye.

Whipped Egg.—Another very simple ornament to a great variety of dishes is the white of an egg, well whipped into a froth. Of course, this cannot compare for one instant with whipped cream, but then it is far better than nothing. Whipped cream

is expensive, and very often cream cannot be got at all. On the other hand, whipped white of egg is always to be obtained, and by placing this whipped white for a few minutes in an oven it will set firm. Suppose we have a dish of stewed fruit—say, stewed plums. Whip up the white of one or two eggs (two yolks, assisted by a little corn-flour, will make a custard to be eaten with the fruit). Pile up the froth over the fruit, and if you like you can colour a spoonful of the froth by beating it up in a cup with a few drops of cochineal, when little dabs of pink can be placed round the edge, about an inch apart. Then the dish can be put into the oven for a few minutes only, in order to set the whipped white; the heat from the oven will make the snow quite firm in a few minutes. It is a very trifling extra expense, but a wonderful improvement in the appearance of the dish. Of course, a few very fine sugar-plums—like “hundreds and thousands”—can be sprinkled over this fine froth, in the same way in which they were sprinkled over the whipped cream; only let me once more remind you that a *few* make the dish look pretty, whilst *many* make it look ridiculous.

Jams.—Different coloured jams are useful in making dishes look pretty, the three best colours being red, green, and yellow. The brightest red is red-currant jam; the best yellow, apricot jam; and good greengage jam forms the best green. A very pretty dish can be made from rice-cakes as follows:—Boil some well-washed rice in milk, till the rice absorbs all the milk. As a rule, a teacupful of rice will absorb two breakfastcupfuls of liquid; but it is impossible to lay down any exact rule, as the rice varies very much in quality. In the end, however, the best rice will be found the most economical. The milk, of course, should be sweetened, and flavoured with lemon, essence of almonds, or essence of vanilla. Now beat up two or three eggs thoroughly in a basin, mixing these in with the rest; then line the square baking-dish with a piece of well-buttered paper, and pour the mixture in till it is about an inch in depth. We will suppose, to illustrate our point, that this baking-dish is exactly one foot square. Put the baking-dish in the oven, and bake the mixture till it sets firm, which of course it will do, on account of the egg. Now turn it out of the baking-dish, place it on a large piece of clean paper, take a foot-rule, and with a knife and board mark it, without cutting it, into eight strips, exactly an inch and a half apart—that is, seven lines must be drawn on the surface of the cake. (Fig. 2.) Next get a piece of cardboard a foot wide, place it on one of these lines, and cover one strip with greengage jam, and half the other strip, close to the cardboard, with

apricot jam; but don't put on the jam too thick, so that it would run. Now lift the piece of cardboard up carefully, and the greengage and apricot jam will join in a perfect line. The appearance of the dish, after it is done, very much depends upon these lines being perfectly even. Next turn the picco of card round, so that the apricot's side is turned towards the half-strip of apricot jam, and the green side towards the next blank strip, on which at present no jam is placed. The piece of cardboard is supposed to be placed along the line drawn on the cake. Then, with a spoon, fill in the other half of the strip with apricot jam, and now, with another spoon, cover half the next strip, next to the cardboard, with greengage jam; and so on till the whole cake is covered with alternate rows of green and yellow jam. (Fig. 2.) The same piece

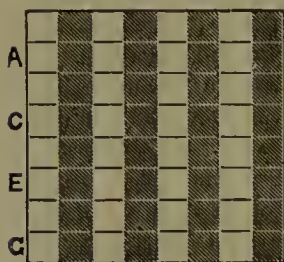


Fig. 2.

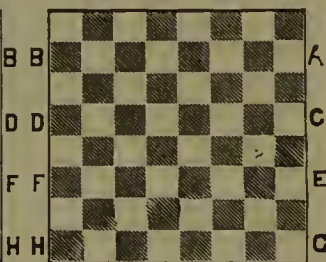


Fig. 3.

of cardboard—which, of course, will get smeary at the bottom with jam—will do for each division as long as it is always turned the right way.

Now with a long knife—a big black-handled kitchen knife, the blade of which is over a foot long, is best—cut the cake across the other way, measuring carefully, so that each strip is again exactly an inch and a half wide. It is best to make one straight downward cut with the knife—and the knife can be oiled first, to prevent the jam from sticking. As soon as the knife has gone through the cake to the bottom, shake the knife, so as to detach the strips, and wipe it clean between each cut; then very carefully turn each alternate strip round. It is best to cut these strips on a large table, covered with a newspaper, as they are very brittle, and, if you were to try to lift them, they would break; but you can push one strip along, turn it round, and then push it back to where it was before. Four of the strips will require turning; four need not be moved at all. Now carefully bring the strips together again, and see that they fit evenly. You will thus have a perfect chess-board of green and yellow squares, which look and fit as neatly as a chess-board made of ebony and maple wood. (Fig. 3.) The proper appearance, of course, very much depends upon the straightness of the lines which separate the

jam, and if you take the precautions herein described, you cannot fail to have a perfect dish. If you like, you can bake some more of the rice mixture in strips about two inches deep instead of one. You can then cut four of these strips, and place them round the outside of the square. Of course, there will be four little places missing in the corners, but these are easily filled in by small square pieces cut from another strip. These form the outside of the chess-board in rice, and of course stand an inch higher than the board itself.

This makes a very pretty dish for a children's party. The difficulty that is sometimes experienced is the dish to put it on. A very good plan is to have a stiff sheet of paper underneath it, and place it on a board (the chopping-board does sometimes) rather more than an inch thick, over which a dinner-napkin can be folded, stretched tight, and pinned underneath. It is possible, by means of ground rice mixed with beaten-up egg, to make a sort of paste which when baked gets hard, although it is eatable. Out of this paste can be made a set of imitation chess-men, while you can form moulds out of flour-and-water paste, if you have a set of chess-men in the house, by burying the chess-men in the paste, baking them in the oven until hard and dry, then cutting the moulds in half, and getting them quite dry. You can butter the inside of the moulds, fill it with the rice mixture, put the two pieces together, and bake in the oven until the mixture sets; you then take them out, open the moulds, and there are the imitation chess-men in rice. When they break, you can stick the little pieces together with a beaten-up egg; then, with a brush dipped in cochineal, colour one-half the men a deep red. Trim the bottoms carefully, so that they stand upright, and place these imitation chess-men on the board. It is a very pretty dish, and generally pleases little children very much, as chess-men and chess-board can all be eaten, and are perfectly wholesome. It gives a lot of trouble, but making these men will form a nice amusement for the Christmas holidays, where there are children in a house, who are going to give a party to others of their own age.

Fruit Dishes.—A very handsome dish can be made for an evening party out of some plain cake, mixed like pound-cake or Madeira-cake. First of all have one cake, say one foot in diameter; next you must have another cake eight inches in diameter, and one small one four inches in diameter. These cakes must be placed one on the top of the other, and of course they will make two circular shelves. Round these shelves you can place different kinds of ripe fruit when in season, or

preserved fruit when not in season. If you wish to make the stand look *very* pretty, you can mask it over with jelly. The cake must first be put in a very cold place, and the jelly poured very slowly when it is only just liquid enough to pour at all. This raised stand of cake must be placed on a round glass dish, and always forms a pretty ornamental sweet. Two cake-tins will be sufficient—one a foot in diameter, and the other eight inches in diameter. The round cake to go on the top, and which is four inches in diameter, can be cut out of the middle of the largest cake; the top cake should be ornamented with some tall kind of fruit, and if possible, for this purpose have a pine-apple, of which the bottom is just cut off, so that it stands perfectly upright, with plenty of green leaves on the top. In summer-time, when fruit is abundant, a marvellously pretty dish can be made in that way. Ripe green figs contrast well with peaches and nectarines. So do greengages and ripe apricots. In winter-time the stand can be ornamented with tinned fruit. Rows of half-apricots can be placed round, in the middle of which can be set one or two preserved cherries, while leaves of green angelica can be put at the back. Slices of pine-apple may be placed in rows (for tin pine-apple is very superior to the imported West Indian pines, which are supposed to ripen, but as a rule are more apt to get rotten). Still, one of these, which are often bought for a shilling, can be placed on the top for ornamental purposes, and always pick one with plenty of green leaves. These green leaves, if you like, can be frosted. Wipe them over with a brush with some gum, and while the gum is wet sprinkle the leaves with some powdered glass; then let them get perfectly dry. As the supper-table is of course well lighted, these leaves will sparkle exactly as covered with hoar-frost, while under a strong light they will glisten like diamonds.

If you have some ripe currants, the appearance of this stand of fruit will be greatly improved by proceeding as follows:—First of all wash the currants thoroughly, then dip them in some weak gum and water, and while they are wet shake some powdered sugar over them, when you leave them till they are perfectly dry. The sugar sticks to the currants, and gives them the appearance of being crystallised. Of course they are all the better for eating by being sweetened. With a little taste some of these bunches may be used to render the dish much more effective.

A very pretty dish can be made by these currants after they are strung. They must first be moistened in gum, then rolled in powdered sugar, and allowed to dry. Now cover a dish with some dark green leaves, with the points sticking outwards uniformly. Young vine-leaves are the best for the purpose. Then

place a layer of red-frosted currants on the leaves, on the top of the currants set another row of leaves with the points sticking outwards, and on these put a thick layer of frosted white currants. Once more place another layer of green leaves, and finish with a layer of frosted black currants. Perhaps the dish would look prettier were the black currants placed at the bottom. However, this is purely a matter of taste.

Confectionery.—One ornamental sweet which always looks pretty is that known as Nougat. This is more a confectionery than a sweet, and although it sounds simple it is not so easy to make as some would imagine. Take, say, two pounds of almonds, blanch them in boiling water, split them in half with the thumb and finger, and throw them into cold water; then strain them off after they are quite cold, and dry them. Next take a well-tinned copper stew-pan, and place in it a pound of finely-sifted sugar, putting it on the fire till the sugar melts, when you mix in the two pounds of almonds; only take care that the sugar is thoroughly dissolved. Now pour some of this mixture, a little at the time, spreading it out on a baking-sheet, and before it has time to get cold press these strips inside a mould. When the mixture is cold, it gets brittle. Some difficulty will be found in pressing this sugar into the mould. It is too hot to touch, and is apt to stick; the mould should therefore be oiled first inside. A half-lemon that has been squeezed is a very good thing to press the bendable strip into the mould, as you can place your fingers inside the half-lemon, and thus prevent them from burning. These strips must be pressed inside the mould, so that they stick together. To look on and see a man do it would give a far better knowledge than can be imparted by writing. When you pour the mixture on to the baking-sheet—the baking-sheet itself must be well oiled first—you should spread the mixture so that it is not more than an eighth of an inch in thickness; otherwise you will have great difficulty in pressing it into the mould properly.

Piping.—One very useful form of ornamenting sweets is known as piping. Piping for sweets is made of sifted sugar mixed with white of egg; piping for hams and tongues is made with clarified butter, and the principle is the same. We will attempt to describe, first, how to ornament a ham, and afterwards how to ornament a cake. First of all we will suppose that the ham has been boiled, and covered with glaze of a rich mahogany-brown colour. Now this ham can be further ornamented by a little trellised work of butter round the edge, while the

centre can be decorated with some design in butter, such as a heart or the Prince of Wales' feathers, or sometimes by a few words, like "Many Happy Returns of the Day," "A Merry Christmas," &c. To do this, however, requires very considerable skill; but with practice any lady who can draw well will soon succeed in making these designs. It is best, at first starting, to practise on some dark surface, such as a papier-mâché tea-tray, as the clarified butter will scrape off, can be re-dissolved, and will do over and over again. Take a sheet of note-paper, twist it into the shape of a cone, and hold it in the right hand with the point downwards. The paper must be fairly stiff, or you will not succeed. Now take, say, a tablespoonful of oiled butter, and pour it into the cone. By increasing the pressure of the fingers, or diminishing them, you can cause a very thin stream of oiled butter to run out of the top, or a thick stream, while with a slight pinch you can stop it running altogether. Now you must exercise your ingenuity in forming some design with this butter on a dark surface. All it wants is practice. No directions would teach you to do it neatly, any more than written directions would enable you to draw a beautiful picture.

In ornamenting a cake, we have a similar mixture to the icing we put on the top of a twelfth-cake; and here, in passing, we may as well give a short description of how to ornament a wedding-cake. Take half a pound of almonds; blanch them, and pound them in a mortar with a pound of finely-sifted sugar; add a little orange-flower water, and then mix in sufficient white of eggs till the whole becomes a soft smooth paste. A layer of this, about an inch and a half thick, must be spread over the top of the cake, and allowed to become firm by drying. After it is dried sufficiently firm, the whole cake must be iced over; and the icing is made as follows:—Two whites of eggs ought properly to absorb half a pound of sugar; and, bearing this proportion in mind, you will be able to make any quantity you like. The white of egg and sugar should be well mixed together with a wooden spoon, and a little lemon-juice dropped in from time to time. The mass must be perfectly liquid, so that it can be spread. This icing should now be spread over the whole cake, sides as well. When it is done, put the cake by in some dry place, and the icing will harden gradually by drying; only don't forget to cover it over with a



Fig. 4.



Fig. 5.

sheet of paper, as the dust is very apt to settle on the sticky surface, when, if the cake is a dirty white, it doesn't look at all well.

This same mixture of sifted sugar and white of egg can now be placed in a piece of white paper and used for piping, as follows:—Suppose we wish to ornament a cake, and that this cake has been iced all over, with the icing placed in this piece of paper—twisted like a cone—we can make a little ornamental border round the edge. (Fig. 4.) Again, some of this white piping can be coloured pink with some cochineal; and then a small pink spot can be placed in the middle of each little circular bend round the edge of the cake. (Fig. 5.)

The icing can also be used to ornament other dishes. Small wafers of it can be dropped on a baking-sheet. These wafers can be made of the size of a sixpence, and can be ornamental or plain, while they can also be coloured pink. By placing them in the oven for a very few minutes, they will set and become hard. They are useful sometimes in making a very plain dish look pretty. Take, for instance, the plain wholesome dish for children, stewed Normandy pippins. The juice, we will presume, is coloured red with cochineal. By placing one of these white wafers, with a little raised pink spot in the middle of it, on the top of each pippin, the dish is brightened up very considerably. Therefore, if you happen to be making icing for a cake, it is always best to use up the remainder, as these wafers will keep good for months, and will always come in useful.

Again, with a little practice this piping can be allowed to fall from the paper cone in a thin stream not thicker than a thread of vermicelli; and recollect also that the piping is of a pure white. Suppose now we have a dish of tartlets: we can make a little ornamental border round the edge of the tartlet on the pastry, like Fig. 4. Of course, this can be done in either white or pink. This same piping can also be used for ornamenting the borders of rich puddings, such as a lemon cheese-cake made in a pie-dish, the edge of which has been covered with a thin strip of puff paste. It will also be found a very nice amusement for the elder girls of the family to make some of this piping in a small quantity, and to colour half of it pink, in order to ornament a very plain cake for little children. Nothing can be more wholesome than pure white sugar mixed with white

of egg and a little lemon-juice. Sugar is good for children: and rich plum cake, especially where many eggs have been used, is bad for them. Now, such is the effect of the imagination, that little children will enjoy a *plain* cake, not much better than sweetened bread with a few currants in it, when it is ornamented with this white and pink sugar, more than they would a rich plum cake, while they can eat as much of it as they like without feeling sick. Plain buns can be rendered attractive in this manner, and it is only by practising at first starting on common objects that sufficient skill can be acquired to enable you to ornament a glazed ham or a wedding-cake in a way which would convey to your guests the impression that the breakfast or supper had been supplied by Gunter's.

Indeed, there is no limit to the number of ways in which piping can be used for ornamental purposes. Space will not allow of entering into even half the dishes that can be improved and touched up by this means, but remember that at a very small cost you can always have by you a few bottles of Breton's vegetable colouring. These can be obtained from all grocers, and, as mentioned before, you can get bottles coloured carmine, red, green, and yellow, and they will be found invaluable for all ornamental purposes. For instance, a few drops of the green will colour piping a bright green, and, of course, the same with the yellow.

Now, suppose you have a plain cake, which you have iced over white, as a base on which to form some pretty design. Any lady—or, as far as that goes, any artist—who is clever with a box of colours, has here an admirable opportunity for exercising ingenuity, and, of course, if you require some darker colour, it is very easy to colour some of the piping a dark brown by the addition of a few drops of caramel.

These bottles of vegetable colouring can be used in a variety of other ways. For instance, suppose you have a jelly-mould, the centre ornament of which is cucumber, surrounded by little knobs. Now if you have in the house a bottle of jelly—and, remember, jelly is sold in pint bottles, very cheap—and you wish to make an ordinary plain corn-flour pudding. Measure in a wine-glass first of all how much liquid is required to just fill the cucumber, pour some of the liquid corn-flour into the wine-glass up to this point, and then colour it a bright green. Next melt a little of the jelly at the top of the bottle by placing a hot cloth round it, and with a spoon fill the knobs of the mould with jelly; then fill the cucumber with the green corn-flour. Then fill up the mould with the corn-flour pudding itself, only, of course, let the jelly in the knobs set first. Now, when the mould is sufficiently cold, turn the whole out—and what a different

appearance it has from an ordinary plain corn-flour pudding! The little clear jelly knobs always look well resting on the pure white, while the dark green cucumber in the centre gives it really a delicate appearance, and yet the cost is almost nothing.

Again, let us suppose we have a bottle of jelly, and also a lot of little jelly-moulds, each of them containing a quantity not more than two or three table-spoonfuls. A bottle of jelly can be melted and put into two basins—one allowed to remain a bright yellow, as it was originally in the bottle; the other half can be coloured a deep ruby-red by adding a little of the vegetable colouring mixture. One half the jelly can also be flavoured differently. A few drops of essence of almonds will be sufficient to entitle you to call the jelly *noyau* jelly; or a few lumps of sugar, rubbed on the outside of a lemon, dissolved in the jelly, and a wine-glassful of rum, will entitle you to call it *punch* jelly. Now these little moulds can be filled up, some with the bright yellow, some with the deep ruby-red, and some with a little corn-flour pudding, flavoured rather highly with, say, essence of almonds or essence of vanilla; and, if you like, you can add a third colour—green—by colouring half the corn-flour a bright green. These little moulds must not be too big, and when they are turned out should be sufficiently small to constitute not more than one help—indeed, you can use wine-glasses for the purpose. Now, if you have four bright colours—a clear bright yellow, a clear ruby-red, an opaque white, and an opaque green—it is always best to have four different flavours. Suppose we say the plain lemon for the lemon jelly originally, punch for the ruby-red jelly, vanilla for the white corn-flour, and essence of almonds for the green. These little coloured moulds can be arranged in a silver or glass dish, and will always set off a supper table, as well as forming a very ornamental dish to be handed round at a dinner party. All that is required is a bottle of jelly in the house, and a few bottles of these invaluable vegetable colouring matters.

In conclusion, we will call attention to another use which can be made of the bottle of yellow colouring matter; that is, it will give a very plain custard the appearance of being a very rich one; it also materially helps to improve the appearance of plain puddings. Suppose, for instance, you have a plain baked rice-pudding, made from rice, water, and a little Swiss milk. You can flavour the pudding with plenty of bay-leaves, make it rather sweet, and add some of this yellow colouring matter to the water at starting. When the pudding is out, so far as appearances are concerned, it is equal to a rich pudding, to which half a dozen eggs have been added. Plain custard can be made by using two

eggs instead of five, and getting a little arrowroot or corn-flour to make it thicker, and a little of this yellow colouring matter to make it look richer. Probably some people will regard this in the light of adulteration. This, however, is a false view to take. No article prepared for the table can be said to be adulterated simply because some harmless material has been added to it to render it more attractive. Gravy is not adulterated because we add a few drops of burnt sugar, nor is milk adulterated if its colour is rendered more attractive by having a few drops of yellow colouring matter stirred up in it. The real adulteration, alas! takes place very early in the manufacture, so far as milk is concerned. For

instance, compare a pint of milk in London with a pint of milk in Devonshire or Cornwall, and the latter, although it is not generally known, is superior to the former. The London milk owes its inferiority to the fact that in one sense they adulterate the cow; owing to the insufficiency of grass, the animals are fed on turnips, and any one with a palate worthy of the name can detect the flavour of the turnip in the milk, as well as in the butter made from it. When, therefore, in ornamenting dishes we use these bottles of colouring matter, it is not fair to say that they have been adulterated; but, on the contrary, improved, inasmuch as they appeal to the eye as well as to the palate.

SCHOOL LIFE.

At what age ought a child's school life to commence? Various answers are given to this question. Some years ago a celebrated medical man laid down the rule in his own family that no child of his should be set to learn lessons, not even to the extent of learning the letters of the alphabet, until he was turned seven years of age. The rule was obeyed, but the children were quick; they were surrounded by books and pictures, and they picked up knowledge apparently without effort; so that when they began to learn, they speedily overtook and shortly out-stripped their companions in accomplishment. Quite different to the rule of this father is the practice in many households where the mother is overburdened with care, has her time fully occupied, and has no money to hire nurses to look after the children. Thus circumstanced, the mother's desire is to send the children to school as soon as possible; and it is said that in many of the overcrowded districts in large towns, children who can barely toddle are sent to Board Schools, and teachers and managers have to be on their guard lest babies should be admitted who are under three years of age. Yet these babies do not suffer. They enter the infant schools; they spend their time in warm, well-ventilated, comfortable rooms, amongst companions of their own age; they are kindly treated by trained teachers, who aim at developing the faculties of their small pupils. They take part in the Kindergarten marches and games, and thus through play they gain true ideas of form, size, number, order, colour, sound, and time. Gradually they acquire habits of industry, perseverance, order, and punctuality; and whilst their faculties of body and mind are thus developed in a safe and healthful manner, they are as happy as the day is long. No one who had had practical experience

of the working of a well-managed Kindergarten school would venture to say that the little ones attending it were subjects for pity.

Quite otherwise would be the verdict, however, where children were taught according to the old-fashioned method of instruction. The children's schools of twenty years ago were a great mistake. There the little ones began regular lessons when they ought to have been spending their time in playing. They were tied down to books and slates when they ought to have been jumping and running. They were set to commit to memory long rows of spelling, and answers to questions concerning facts which were not of the slightest use to them, and their restlessness and inattention were regarded as signs of naughtiness. Can we wonder that children thus educated learnt to dislike books, and that lessons were regarded by them as a task, not a pleasure? Schools of the kind referred to are now gradually dropping out of existence. Parents in all ranks of society are learning to appreciate the value of the Kindergarten method of instruction for young children, and on every hand Kindergarten schools, or schools where the Kindergarten system is adopted, rise, and flourish.

Still, it is to be feared that the objectionable type of school has not entirely disappeared. Here and there it is to be found even now, and a few children still have what ought to be the happiest period of life, made miserable by cramming and courses of education. Fathers and mothers who permit this state of things usually do not know what harm they are doing. They think that the child has a good deal to learn, and that the earlier his school life begins the more brilliant, as a scholar, he is likely to be. Yet, as an actual fact, by overtaxing his brain.

and setting him tasks to which his powers are unequal, the parents are doing what in them lies to make the child stupid as well as delicate. These parents would do well to take to heart the wise words of a writer very largely read twenty-five years ago: that is, when these objectionable educational methods were in full favour. This gentleman, who was the author of "Recreations of a Country Parson," speaking on the subject of children's school life, said:—

"A great trouble always pressing heavily on many a little mind is that it is overtaxed with lessons. You will see, here and there, idiotic parents striving to make infant phenomena of their children, and recording with much pride how their children could read and write at an unnaturally early age. Such parents are fools; not necessarily malicious fools, but fools beyond question. The great use to which the first six or seven years of life should be given is the laying the foundation of a healthful constitution in body and mind, and the instilling of those first principles of duty and religion which need not be taught out of any books. Even if you do not permanently injure the young brain and mind by prematurely overtasking them; even if you do not permanently blight the bodily health, and break the mind's cheerful spring, you gain nothing. Your child at fourteen years old is not a bit further advanced in his education than a child who began years after him; and the entire result of your stupid driving has been to overcloud some days which should have been amongst the happiest of his life."

Yet more emphatic is Dr. Chavasse, who, while quoting with approval the "Country Parson," remarks:—"You ask about courses of education and regular lessons for a child! In the name of the Prophet! Figs! Fiddlestick! Let your child have a course of education in *play*; let him go through regular lessons in football, bandy, playing at tic, hares and hounds, and such excellent and really useful and health-giving lessons. Begin his lessons? begin brain work, and make an idiot of him? Oh! for shame, ye mothers! You who pretend to love your children so much, and to tax, otherwise to injure, irreparably to injure, their brains, and thus their intellects and their health, and to shorten their very days? And all for what? To make prodigies of them, forsooth; to make fools of them in the end!"

Kindergarten Schools.—Let fathers and mothers, therefore, who are considering at what age school life should commence for their children, be guided in making a reply by the kind of school available. If there is a good Kindergarten school or a well-managed infant school within reach, where the little ones are taught, by a competent and fully-quali-

fied teacher, to march, to sing, to play in succession with toys so carefully constructed that each one makes a larger demand on the child's comprehension than did the one which preceded it, the character of the child will be gradually and naturally developed. Through associating with other children he will be likely to become kind and unselfish; for children benefit by mixing with companions of their own age. He will gradually have his senses quickened, his powers awakened, a desire for knowledge excited. When in due course the time comes for him to learn to read, to write, and to "cipher," he will progress far more quickly and easily than he would have done if he had not been prepared for his studies by work, play, and gentle exercise, and through the whole of his subsequent school life he will have the advantage of the preliminary Kindergarten training. It cannot be too often repeated, that the surest way of making school life a success is to let it commence in a "Kindergarten." If, owing to unfortunate circumstances, the child cannot enter a Kindergarten, or a school where Kindergarten methods are employed, it would be better to defer his entry into school life until he was old enough to go to an ordinary school, rather than to send him while yet of tender age to an establishment where he would simply be forced to learn lessons without having his faculties developed.

Schools and Infectious Diseases.—One reason why many parents object to Kindergarten schools, as well as to schools for children of every sort and age, is that where children meet together there is always a danger that infectious complaints may be communicated. This danger is a very real and a very formidable one, and parents and teachers have a right to use every precaution against it. Parents who arrange for their children to attend school ought to regard themselves as the guardians of the well-being of the community, and feel bound for conscience' sake to keep a child at home as soon as he shows signs of illness, and also to keep all his brothers and sisters at home until a clean bill of health could be furnished by the family. If all parents would be scrupulously particular in this respect, mischief arising from this cause would be much less than it is. With the same object in view, teachers are quite justified in making a rule, as many do, that each pupil shall be furnished at the commencement of every term with a certificate, signed by the parent, to say that the scholar has not come in contact with any one suffering from an infectious disease during the holiday. Such a regulation may be resented by foolish parents; yet prudent parents will regard it as so great a safeguard that it will give them confidence in the teacher who requires it.

Meantime, having taken every care that is possible against the dangers arising from association with other children, parents have to remember that isolation is not an invariable protection against disease. We say that children "catch" whooping-cough or measles, we know not how; and the way to avoid complaints of the sort is to keep them healthy; to let them have plenty of fresh air, good food, and suitable living. Moreover, children "catch" other things than disease from each other. From polite children they catch good manners; from amiable children good temper; from refined children pretty speech and pleasant ways; from honest children truth; and from good children happiness. Mothers know that it would be unreasonable to expect an only child to be unselfish, considerate, and helpful. Only by mixing with their fellows are these qualities brought out, and it is quite open to question whether the good likely to be "caught" will not outweigh the evil.

The Home Kindergarten.—In many neighbourhoods parents are unable to send their children to a suitable school, because none such is established. The appreciation of the Kindergarten method grows more every year, but the schools are not yet to be found everywhere. Under these circumstances it would be worth while for parents to arrange to unite with one or two families of their acquaintance, and engage a qualified Kindergarten teacher to educate the children belonging to all. The number of qualified Kindergarten teachers increases every year; and any difficulty in securing one will soon, we hope, belong to the past.

Where the engagement of a teacher is not practicable, it is always possible for parents to purchase the Kindergarten toys—or gifts, as they are called. The mere introduction of these gifts into the nursery, used by a nurse of any intelligence, in their due order, will do much for the little ones, although no one will suppose that the gifts by themselves will be as useful as they would be if put into the hands of a clever teacher, who had the power to impart information. Before a Kindergarten teacher is pronounced qualified, she has to go through a regular course of study, and to make herself fully acquainted with technical details peculiar to the system. It would, therefore, be absurd to suppose that the gifts and employments without the aid of the teacher, would prove as valuable as would be likely with her guidance. Yet even alone, with the help of the little manuals to be procured with them, they might be of service, and therefore mothers may be glad to know what they are, and in what order they should be employed.

Gift No. 1 is intended for infants a few months

old. It consists of a box containing six soft balls of equal size—red, yellow, blue, orange, green, and violet. With the balls are six strings and three pieces of wood, so that the child can swing and push



Fig. 1.—FIRST GIFT.

the balls, besides rolling and throwing them. (Fig. 1.) Children and their parents almost instinctively select a ball as a suitable first toy. It is an interesting plaything, and it is not likely to do any injury to its small owner, for it has no corners or sharp points. Few parents, however, look upon the ball as a means of education. Yet it deserves to be thus regarded; and there is a Persian proverb which says, "A ball is a chosen toy for the children of kings." From this gift may be gained ideas of movement, order, number, colour, size, and weight; and by handling it the child may gain much knowledge through the sense of touch. It would be scarcely possible to name a toy which would teach a young child so much, and at the same time give so much pleasure, as does Gift No. 1.

Gift No. 2 consists of a box containing two cubes, a ball, and a cylinder. (Fig. 2.) One of the rules of the Kindergarten system of education is, "Add the

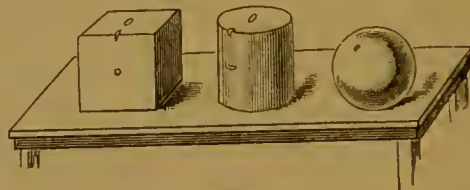


Fig. 2.—SECOND GIFT.

unknown to the known." When the second gift succeeds the first, this rule is carried out. The ball in the second gift is like, and yet unlike, the ball in the first gift. The child should be led to perceive the points of similarity and the points of difference between the two, and to compare his playthings one with another. Thus his powers of observation will be strengthened. A piece of cord belongs to this second gift. One of the cubes is pierced in three places—through the centre of opposite sides, through two opposite corners, and through the centre of

opposite edges—in order that a stick may be inserted, on which it can be turned. The other cube has three small staples—the first in the middle of one of its six sides, the second in the middle of one of the edges of the same side, and a third in one of the corners. The cylinder has also three staples—one in its flat side, another in its curved side, and a third on the edge between the other two. By fixing a string in the staples, or by inserting a stick through the holes,

in Fig. 5 is amazing. A very inadequate idea of the variety may be gained from the few examples here given. Fig. 3 is restricted solely to a few specimens of solid structure building, the child being taught to find out every possible novelty, and getting many ideas as to stability, balance, and security, which may be useful to him—for it must never be forgotten that these things are encouraged systematically as *lessons*, and thus keep up the

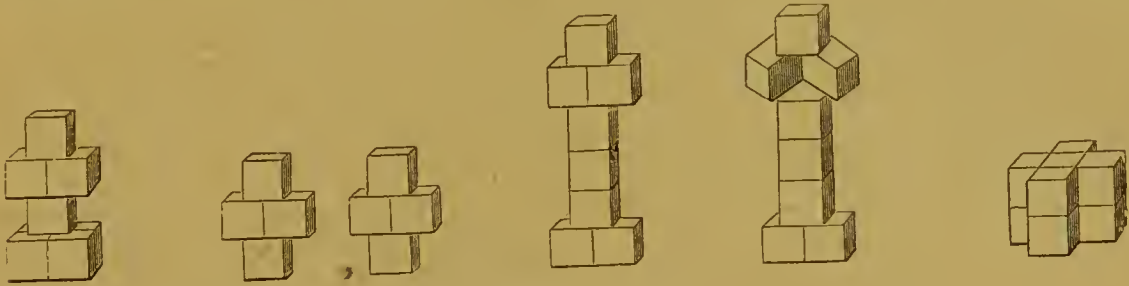


Fig. 3.—SOLID STRUCTURES.

the objects contained in this gift can be turned or spun round quickly, and thus almost all the geometrical forms can be seen. Also, by the aid of the ball in this gift, a sense of rhythm and time in music

interest long beyond a mere aimless play at “building” with bricks, to patterns already given. In Fig. 4 are shown the use of the same cubes in cultivating the faculty of decorative design, the

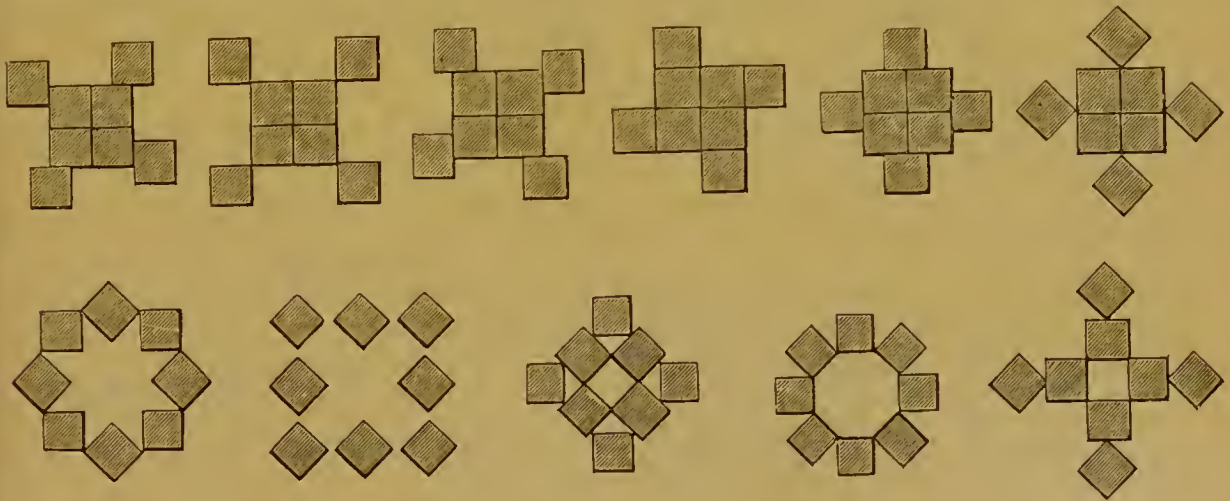


Fig. 4.—DECORATIVE DESIGN.

may be developed, by letting the child gently drop the ball from one hand to the other at certain intervals during singing.

Gifts Nos. 3, 4, 5, and 6, are bricks of various sizes, divided according to fixed rules. Gift 3 is simply a large cube divided into eight smaller ones of equal size, which are contained in a square box made to fit them. (Fig. 5.) In gifts 4, 5, and 6, the cubes are larger, and the divisions more numerous. The number of



Fig. 5.

shapes which may be made even from the cubes

examples being only a portion of what are possible even in strict *quadrilateral* symmetry (*i.e.*, alike on all four sides), and leaving untouched a host of bi-lateral and other designs, so many of which are possible, that even grown persons may find interest in seeing *what can be done* with eight simple elements. To cultivate this range of faculties is one object of the gift. By making such figures, and seeing how many it is possible to make, the child gains perception of form, position, and number. Bricks, Kindergarten teachers believe, have a high educational value. They develop the constructive

faculties of a child, and exercise his inventive powers. He learns to distinguish the upper and lower sides; before, behind, left, right, &c.; and learns the meaning of "under," "over," "between," "in," "upon," and "near." Parents may think that knowledge of this kind comes as a matter of course, and that a child does not need to be taught it. If, however, he acquires this knowledge accurately in the first instance, and if his own powers are gradually and naturally called out, his "regular lessons," when he comes to learn them, will not be nearly so difficult as they otherwise would have been, and his school life will be shorn of half its terrors.

Next in order to the Kindergarten gifts come the Kindergarten employments and amusements. These

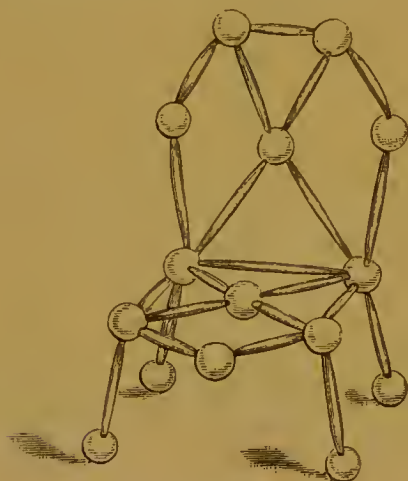


Fig. 6.—PEA-WORK.

consist of various occupations, such as stick-laying, paper-folding, pea-work, paper-pricking, sewing, painting, and modelling. The materials for these employments can be obtained at any Kindergarten dépôt. Fig. 6 shows a chair made in pea-work. The materials here used are whole yellow peas and round thin sticks. The peas have to be soaked for some hours in cold water to make them soft; the sticks have to be cut into equal lengths, and pointed at both ends with a penknife. Thus prepared, both peas and sticks are easily manipulated.

Having become familiar with these employments, and when the child is sufficiently advanced, he is taught the alphabet, spelling, and reading, by means of pieces of cardboard and alphabet-boxes. Then he goes on to writing and drawing. In all these employments materials are provided, and the child goes through an educational course, the effect of which is to prepare him to reap the full advantage of the lessons which he will have to learn in the future.

Many parents would scarcely regard the Kindergarten course as a part of the child's school life; they would consider it merely play. It was, however, a maxim with Fröbel, the founder of the system, that "Play is the Labour of the Child." His aim in teaching was to make education delightful to the child, and undoubtedly he succeeded. But a child thus "gardenized"—which is the meaning of the expression—has his faculties developed to a far greater extent than one not so trained. He has more knowledge of things, more power of observation, more of reflection, and more judgment. He will excel more in school-games, as well as in lessons. He has begun well that process of *healthy intellectual development* which is the great end of education.

Boarding Schools.—In some households there is no occasion for the parents to make arrangements for regulating the school life of their children, because it is found necessary that, having left infancy behind, the children should be sent to boarding schools. In schools of this description children are, of course, removed quite away from the sphere of home discipline and home management. The life of children in boarding schools is under the direction of the teachers, and all that a parent can do with regard to it is to use a wise discretion in the choice of a school—taking pains to select an educational establishment where the moral tone is high, where the work is thorough, where the health of the pupils is considered, and where there is hope that the friendships made will be elevating instead of degrading.

Parents who realise the importance of regulating the school life of their children, very often object altogether to boarding schools, because, when attending them, young people are placed away from home influence, and the control of the parents over the children is weakened, if not destroyed. The objection is reasonable and well founded. Boarding schools supply a means of relief from the anxiety caused by the care of children, to parents who are in delicate health, or who have too many engagements abroad to enable them to attend to duties at home. Thus regarded they are an advantage; but it is often found that the relief thus gained leads to increased anxiety later. Unless most wisely selected, boarding schools may be, and they frequently turn out to be, most dangerous institutions, acting as hotbeds of corruption altogether destructive of innocence and beauty of character; while, so far as the cultivation of acquaintance with the Muses is concerned, children might as well be entered in a barnyard as in some of these schools.

Even when they are well conducted and conscientiously managed, life in boarding schools is a poor substitute for the best home life. It has its

advantages; and education in a great public school, especially, knocks the nonsense and self-conceit out of a boy, and gives him, in many cases, a frank manliness of tone which can almost always be recognised in after-life. That is the best side of public-school education; but it is only half the truth. There are loud complaints in these days of the decay of family life, and parents mourn and are amazed because brothers and sisters of the same household have little sympathy with each other as they grow up, and do not take pleasure in each other's society. Surely one explanation of this calamity is that during the most impressionable time of life children have been sent away from home, from their own people; their interest has been diverted from home; and living at home as they do in the holidays only, home becomes to them either a strange place, or a place for mere diversion, while their duty, their friends, and their companions are to be found elsewhere. Parents who can gain and keep their children's confidence, and maintain intimate and sympathetic relations with them during childhood and youth, have a prospect of enjoying the friendship of their children during manhood and womanhood; but when children spend the greater part of their youth away from home, the establishment of these relations is scarcely possible.

High Schools and Public Schools.—The school life which commences when the Kindergarten course is complete is much more like real labour; indeed, it is so serious a business, that it is quite common for loud complaints to be made with regard to over-pressure, cramming, and over-study. Very frequently, no doubt, these criticisms are entirely mistaken, although there are undoubtedly occasions when they would be justified. The fact is, that if a child's school life is to be a success, and if a child is to gain the benefit which he might do from school education, parents will have to realise that the educational arrangements of the present day are entirely altered from what they used to be: and that the alteration is for the better. At the high schools and collegiate schools which are now available, children obtain a far more real and thorough training than they could do in the old-fashioned seminaries and "genteel academies" which were once in vogue. In the seminaries of the old *régime* the ultimate appeal was to the parent; in the high schools of to-day it is to the teachers and the managers. The seminaries of twenty years ago owed their prosperity to the patronage of parents. If the wishes of the parents were not consulted, the teacher had to fear that his means of livelihood would fail, and consequently he was dependent upon

the support of the parent. The high school, on the other hand, owes its success to the superior quality of the education which it supplies, and being upheld by public opinion, it is independent of the individual parent. If a parent did not approve of the educational methods of the seminary, he took away his child, and the seminary was injured. If a parent who does not approve of the arrangements at the high school takes away his child, he can rarely find an equally good school as a substitute, and he has to be contented with an inferior education for his child. Too late he discovers that the high school and the collegiate school furnish the best education to be had, while large sums of money spent on private tuition and fashionable academies are likelier than not to be money thrown away, so far as they are regarded as means for obtaining a thorough educational training.

Say what one may against the high schools, it yet remains true that they furnish an education superior to anything of the kind that has ever been placed within the reach of pupils of the class for whom they are intended; and also that a child who has gone successfully through the educational course of one of these modern establishments is a subject for congratulation, and is far better fitted to face the emergencies of life than is his companion who has attended the fashionable academy, and whose education has been regulated by his parents. So long as this state of things prevails, the high schools will hold the field for average children. The very wealthy will be under the tuition of high-class private tutors and governesses; the weakly and delicate will need to have special educational arrangements made for them; but average children of average constitution and average ability will enter the public school, and pass their school life there.

Over-pressure.—Meantime, it needs to be said that if parents would but believe it, and act on their belief, the remedies for over-pressure, cramming, and their attendant evils, are to a great extent in their own hands. In most proprietary schools much of the pressure itself is due to parents. Whenever a remonstrance is made against the amount of home-work, the reply invariably is that the majority of parents rather press the master or mistress for more, with the view of keeping the children out of mischief—more really, it is to be feared, to keep them from annoying the parents with their recreations. It is pitiable that parents should so wrong their children, but we know it to have been the case in many instances. With regard to public or high schools, which are above such pressure as this, if parents would but accommodate themselves to the new conditions, and make the best and the most of the circumstances which prevail, the school life of their children would not be

half as difficult as it too often is, and the benefits resulting therefrom would be much increased. Much judgment is needed before we can decide whether or not a child is being over-worked, and parents ought to be most careful how they assert the fact, unless they are sure of being right, otherwise they may do their own children great injury.

The amount of school work to be done in large schools is planned out by competent persons before the tasks are placed in the hands of the children, and the possibility of mastering those tasks will rest quite as much upon the co-operation of the parents, especially the mother, as it will on the talent of the teacher.

With the educational routine of school life we who are occupied with household management only, have nothing to do; but with the domestic part of school life we have everything to do. At present there are not many parents who know that there is a domestic side to school life; they would do their duty towards their children in this department willingly enough if they knew what that duty was. To parents thus minded, the following considerations may be of use. If parents will act on the simple suggestions here given, the difficulties and trials of school life for children will be speedily lessened very considerably.

The parent is to blame, and not the teacher, when children suffer from over-pressure and too close study. The parent is the guardian and protector of the child, and no stranger can relieve him from the responsibility which belongs to the position. If, therefore, a parent finds that a child is working beyond his strength, it is the duty of the parent to stop the mischief. Should a child's health begin to suffer; should he have headache, be nervous, excitable, and irritable; and should he be anxious and depressed, and unable to fix his attention on study, the parent may be quite sure that there is something wrong, and he should take steps to put that something right at once. Yet he would by no means be justified in jumping to the conclusion that the child's brain was overworked. Headache and nervous exhaustion are produced by other conditions as well as over-study; and ill-health, with all the signs of over-pressure, may very often be prevented by exercising a little common sense. If, however, after taking all these probabilities into consideration, the parent still thinks that he has ground for believing that the child is overworked, he should instantly write to the head-teacher of the school, explain the circumstances, and request that the work should be lessened.

It is not likely that there is a teacher living who would not gladly attend to a communication of this kind. Few teachers deserve the blame they get for insisting that a child shall study who is unable to do so. It is not to the teacher's interest that a child shall be made ill through learning lessons; it is to

his interest that a child shall make progress, and benefit all the way round through attending school. Very often when children find school work too much for them, the teachers are ignorant of the fact until irreparable harm is done. The parent, who knows the constitution of the child, and understands his little peculiarities, is more likely to note the first signs of injury than is the teacher, who is surrounded by a score or more of children, all of whom are strangers. The business of the teacher is to encourage children to work, and to discourage idleness. Idleness very often occurs amongst children; so that if the teacher mistakes the misfortune for the fault now and again, we cannot very much wonder. Parents ought to remember that teachers are but human beings; they are not all perfect; they have their idiosyncrasies of disposition as well as other people; and the work which they have to do is very trying. But, taking them as a whole, they are perhaps more patient and more reasonable than other people, rather than less so, because their experience and the discipline they have had to go through tends to make them so. They have, moreover, been so much blamed for "over-pressure," that there is scarcely one amongst them who would be so foolish as to take the responsibility of insisting upon lessons being learnt when the parent formally announced that they were beyond the child's strength. Therefore, if a parent allows a child to continue to learn lessons beyond his strength, the parent is to blame.

Regarding over-pressure of home-lessons as a general thing, exaggerated statements have no doubt been made on both sides. It has probably existed more in the past than the present; but that the evil has been real is proved to some extent, not only by the distressing increase of spectacles and baldness among young people, but by the recent legislative changes in regard to the examinations of Board Schools, and by the Government orders inculcating greater watchfulness and consideration lately issued in Germany. Medical men as a body are undoubtedly of opinion that it has been so, and are especially unanimous as to the evils of compulsory study up to the time of going to bed, the certain result of which is nervous irritability, and more or less insomnia, in after-life. There has been too much an idea of putting the real work upon children out of school, and regarding school as a mere place and time for setting and hearing lessons. The tendency is already very evident towards improvement in this respect, and to the doing of more work in school and less out of it, than formerly. That the present general high-school routine can be followed by the majority of healthy children without detriment, there is ample evidence; and if there is time in the

day for active exercise, and a child is able to go to bed in good time, with a clear interval between lessons and repose, there will rarely be cause for anxiety, unless in exceptionally delicate cases. It should, however, be clearly understood that *in no case whatever* is anything to be gained by tasking children beyond their years, and that parents themselves must judge of this. When children who are not strong are kept back from study for a while, they generally soon get up to the average when opportunity for study is given them. It is, however, most necessary and important that children, as well as grown-up people, should have abundant time for rest, exercise, and recreation, and parents should make it their business to see to it that these are secured.

A child should never be allowed to study immediately after taking food. This is a point well worth remembering. A lady who took high honours at the University, and who has been celebrated as a teacher of the young, gave it as her opinion that this was a detail of great importance. No matter how difficult the lessons may be, half an hour at least should be given to talk and recreation after a meal before a book is allowed to be opened. Study should not be pursued wildly and anxiously without intermission. To act thus would be a sure way of destroying health; it should be regulated, pursued reasonably, and followed with moderation. Exercise, too, must be taken daily, meals should be nutritious, and the general rules of health should be obeyed. What the exercise and physical training should be will be the subject of another chapter.

Most important of all, children's lessons should never be allowed *really* to tax their efforts up to the time of going to bed. It is this which destroys the habit of sound sleep, and causes children to dream and talk about their lessons in their sleep. It is all-important that for a clear hour *at least*, relief and light recreation or exercise should intervene. On the ruinous results of breaking this rule all medical men are unanimous; and while it should be ascertained that a child does not *waste* time in lazy and fruitless pretence at study, if it is found that even with conscientious work his home lessons keep him beyond a proper hour, and up to bedtime, it is imperative that the burden be lessened.

Of course, it will be taken for granted that if a parent thus writes to the teacher to say that lessons must be shortened, it must follow that the child will lose some position in the school, and will not be able to compete with his fellows. Here many parents make a mistake. They say, "It is hard that my child should lose on account of something for which he is not to blame." True, it is hard; but it would be harder still if two dozen children were made to suffer because one child was unfortunate. Parents

sometimes speak as if they would like the lessons of all pupils in the class to be shortened because their child cannot learn them; or, if this may not be, they would like their child to retain his position, though he cannot do the work. This, however, would be very unfair to the others. If the misfortune of weak health comes to a child, it must be accepted and made the best of; but it would be unjust to keep all back because one cannot press forward. Health is of such paramount importance that it ought to be considered before everything; indeed, it is very questionable whether delicate children ought to be sent to public schools at all: whether they would not get on better at a small school or under private tuition. If, however, it is decided to send them to a public school, the parent must take the risk, and should not blame a system for what is, after all, a personal misfortune.

Over-pressure often Preventible.—A very important fact in connection with the school life of children is that the effects of over-pressure appear, not always as the result of the amount of lessons which have been learnt, but frequently as the consequence of mismanagement at home. Headache, for instance, is known to be one of the first signs that there is overwork; yet it may be caused by physical ailment, or by want of fresh air, as well as by study. With cases of this sort parents are familiar, and they usually know how to treat them; and as far as the school is concerned, all they need to ask is whether the course of lessons really allows *time*, with proper management, for the needful exercise and recreation. But they need to remember that a child can only learn satisfactorily in satisfactory conditions. One of the truths which parents need to recognise with regard to education is that a child can study more easily, and is less tried by study, when his surroundings are favourable to study; when the room is not only well ventilated, but is also quiet and comfortable; and when there is nothing going on to distract his attention. Mothers who have not thought on the subject will often let their children study in the general sitting-room, where laughing and talking are going on around. The child learns a little and talks a little; looks at his book and looks away from it; tries to work out a sum one minute, and gets up to watch a friend at work another minute. Is it any wonder that lessons learnt thus are either learnt imperfectly, or the student finds them a weariness and a strain? Half an hour's quiet study in a room where all is still, will accomplish more in the way of progress than will three or four hours' attempted study in a noisy room; and yet the progress made will not have been any strain. Mothers have no conception how much

they can do to help their children, during the important period of school life, by making home arrangements favourable to study.

"Are we, then, advised to set apart a special room for study?" harassed and over-tasked mothers will perhaps say. "Must we in cold weather have a fire put in a separate room—and so increase that household work which we already find too heavy—in order that the children may do home lessons in quiet?" To this question we should answer: "It does not necessarily follow that a room should be specially set apart for study, but it undoubtedly is most important that children should not have their attention distracted while they are at work; for if they do, the danger of a strain on the nerves will be increased enormously." If the mother will but place herself in an attitude of friendliness to the school work, and try to help with the lessons, instead of expending her energies, as so many mothers do, in grumbling about the faults of the modern system of education, she can generally arrange, without much difficulty, that a child shall have a quiet corner for home lessons. But when mothers set themselves in antagonism to the modern system, it is not very likely that the child will gain from it.

Quietness during study, however, is not the only essential to success. The mother who has resolved to help her child to make progress at school can do much more to accomplish the purpose than merely arrange for quiet. She can see that her child has sufficient rest, by making him go to bed in good time. During school life children under twelve ought to be in bed by eight o'clock; children turned twelve ought to be in bed by nine o'clock. It is wonderful what healthy young people can do if they get plenty of sleep. It is wonderful, too, how soon they are upset if they lose their sleep.

The mother may also do much in the way of avoiding overstrain by forbidding a child to undertake outside employments in addition to lessons, and by refusing all invitations which would unduly excite the child and make lessons difficult. It may be said that this will make school-time a time of hardships and misery. It need not be the case, however. At any rate, education in these days is an affair of so much importance, that it must be undertaken in earnest if any good is to be done; to attempt to accomplish other businesses while this is the business in hand is simple folly. During holiday-time the child should take holiday and play to his heart's content; and fortunately, according to modern arrangements, holidays are frequent and fairly long. During school-time, however, the child should work, and every obstacle to work should be put out of the way; just as during holidays every obstacle to rest should be put out of the way.

Acting on this idea, parents should resolutely set their faces against what are called holiday tasks. In some schools children are set to learn lessons during the holidays, and although the work is optional, inducements in the shape of "holiday work prizes" are offered to those who go through a certain routine. Where these holiday tasks consist merely of collecting botanical or natural history specimens, they are not objectionable. They supply a subject of interest for leisure hours, and are not irksome. But when they consist of book-work, of the kind which has to be done during the term, they are a mistake, and every wise parent will encourage the child to disregard them.

Mistakes of Parents.—A mistake frequently made by parents who are over-anxious that their children should make progress, is that they help the children with their lessons, work out the sums, and bear the brunt of the hardships of school life for them, and try to make everything smooth and easy for their darlings. This conduct is kind and well meant, but it is very mischievous. Children benefit most when they conquer their own difficulties; and the determined effort to master a lesson does the child as much good as the lesson itself. Moreover, when a child takes a high position in a class through the industry of the parent, he has not really made progress; he has merely been put in a false position, and sooner or later his incapacity will be brought to light. One of the gains of school life is that it enables a child to find his level; but the parent who helps unduly with home lessons stands in the way of this gain being secured. A little assistance in home lessons, parents must give; a few suggestions, a hint now and again, must be allowed; if they might not, it would indeed be hard. But through everything it should be remembered that the children who for themselves find a road through difficulty, are the children who will progress most.

Another mistake often made by affectionate parents during the period of their children's school life, is the practice of sending frequent little notes to the teacher, drawing attention to the fact that an injustice has been done here, that an error has been made there, and that a mistake has been overlooked somewhere else. They would act more wisely if they would let the mistakes pass, and avoid worrying the teacher. To associate the personality of a particular child with the idea of a succession of irritating notes is to cause that child to be regarded as a nuisance; and though teachers may be good-tempered, and receive correction with apparent meekness, they do not enjoy it. Should serious mischief be done, and the child be in danger of real harm, a parent should write without hesitation and at

once to the head-teacher, and not rest until the evil is mended or ended. But with regard to trifling errors and small mistakes of detail, and even small cases of actual injustice, he would benefit the child more by teaching him to disregard public opinion so long as he has the approval of conscience, than he would by making a commotion and bringing down punishment upon the wrong-doer.

Those who are most familiar with the arrangement of large schools know well that a certain amount of injustice must be done. There is no help for it. Teachers may do their best, but they cannot always be perfectly fair; they must now and then be misled. Yet it is good discipline for a child to learn, while still he has the sympathy and support of friends at home, that those who are in the right are not always praised, and those who are in the wrong are not always blamed. The race is not always to the swift, nor the battle to the strong. School is a small world. In the large world which the child will shortly enter, he will have to face injustice and misrepresentation, and his pain then will be more easily borne if it is not altogether novel. Without doubt, in the small world, as in the large, character tells in the long run, and justice prevails in the end, though it may be dealt

out somewhat roughly. It is, however, no kindness for the parent to try to save the child from the natural consequence of events.

These are a few of the means which parents may adopt in order to render the school life of their children less of a terror than it has of late years come to be regarded. These means are specially of value when the children attend a high school or a public school. They are, however, equally applicable to small private schools and to private tuition. They are very simple, and very easily carried into effect, but it has been found from experience that their adoption frequently makes all the difference between a school life that is a failure and a school life that is a success.

Nothing is said here concerning the *curriculum* of education. Obviously, this should have some bearing upon what the child is likely to be. It is foolish to waste time upon classics, for instance, as a preparation for a plain business career, to the prejudice of other subjects which it is all-important should be learnt thoroughly. Most schools now offer a reasonable amount of choice in these respects; but it will be more proper to consider this aspect of the subject on another occasion.

GARDENING FOR MAY.

The Paths.—Where these are in bad condition, either from being worn down or from bad management, and to such an extent as to require a thorough renewal, now is about the best time to perform the work in a satisfactory manner. Earlier in the year we advised smaller repairs to be made; but a renewal all over, and a coating of fresh gravel, is a question of more labour. This cannot be performed so well earlier in the year, when the weather is not so reliable, for if wet weather sets in whilst the work is in progress, it takes a long time to regain a solid surface for walking upon. Freshly broken-up paths retain so much moisture, which would otherwise pass off into the drains, and the fresh gravel is often forced too far into that already on the path, with most of the sandy portion only left on the surface, which quickly washes or wears away afterwards.

The best way to proceed with old paths is to break up the surface all over to a depth of about two inches; then the centre or the crown of the path should be hollowed out with a rake, which, when done, will leave that part level with, or perhaps lower than, the sides. After this has been done, all the coarser gravel should be drawn towards the centre, and some of the finer raked over it, just sufficiently

to cover it. Now, before the new gravel is spread over the surface, the path should have a good rolling; if it is very loose, it had better even be trod over before being rolled. The object of this treading and rolling is to prevent the paths from looking wavy when finished off; this is caused by the roller forcing the gravel before it, then ultimately passing over it. When this has been done, and the path once more settled down in an equal manner all over, with the sides proportionately lower than the centre, the fresh gravel should be spread equally all over in sufficient quantity to form a good dressing, through which the dirtier colour of the old gravel will not show. Then the roller should be brought into use again to press all down in a firm manner; afterwards a shower of rain will be beneficial in helping to settle the surface down firmly. It is well to repeat the rolling after these showers, at the same time keeping an eye on the slightest inequality, and filling it up with a little more gravel as may be necessary.

For all garden paths, the gravel should have been passed through a coarse sieve, to remove the larger stones; otherwise, these will be frequently kicking up and causing holes in the paths. Should the grass verges next the paths be rough and uneven at the

edges, they should be cut afresh far enough back to obtain a firm surface on the sides. Any inequalities in the widths should at the same time be re-arranged in proper form. Where the paths are in fairly good order as to gravel, but possibly in a bad state as to weeds and mossy vegetation, now, when the weather is dry, will be a capital time to apply a "Weed destroyer," as previously recommended. This should be diluted with water according to the recipe sent with each tin of the liquid. After one application, the weeds will soon die off, and the paths remain bright and clean for the rest of the season, unless it is an extremely bad case, when a second dose may be needed after the lapse of a few weeks.

The Lawn.—Mowing will now require frequent attention, to keep the grass within bounds. Places not easily to be approached with the machine should be cut with a pair of shears, as used for cutting hedges; grass shears are useless for such work, but are indispensable for cutting the grass that overhangs the edges of the beds and walks. When work is pressing at this season of the year, it may happen that some of the grass will get left on the lawn in heaps until the next morning. This should always be avoided, if possible, for a moderate heap only will at times become so much heated as to leave a brown mark on the spot where it had been deposited at the time of mowing. The best plan is to place the mowings in a large basket or barrow, and make a point of never leaving any behind upon the grass.

Lawns devoted to lawn-tennis require to be mown more frequently; and when any impression can be made with the roller, after a course of play that has somewhat disturbed the surface, it should be applied several times over the worn parts. A few cans of water distributed over the surface where much worn will greatly help to renovate it. This should be applied overnight, and the roller, as previously advised, the following morning. It is a good plan to shift the court a few yards at times; this will give the grass an opportunity of revival. Whiting is generally used to mark out tennis-courts, as it does not injure the grass; whereas a preparation made from lime, if used directly after it has been mixed, will burn the grass and make it unsightly. Better than either of the foregoing, in our opinion, is cocoa-nut fibre refuse, which can be applied in a dry state. It does not look so staring, but gives quite enough indication of the lines for the players.

Staking and Tying Herbaceous Plants, Carnations, &c.—The forwardest of the first-named will now require this necessary attention. It should always be done before the shoots, through

their length and consequent inability to support themselves in many instances, fall over, or partially so, upon their sides. It cannot then be done nearly so well as if taken in time, besides taking considerably longer to do and not looking so well when done. Regard must be had to the height of each kind when the growth is complete, and allowed for accordingly. The best plan with plants that throw up several shoots from the base is to place a few sticks around them, and then with tying material (raffia or tar string) hold them in position by passing it round from stick to stick. This permits of all the shoots growing up without being crippled with ties to each one. Single sticks as supports are best when there are only a few stems to support; but care must be given to making *loose* ties, so as not to check the flow of sap later on.

The best stakes we have ever used are the bamboo sticks, which nowadays can be purchased at cheap rates per 100 or 1,000. They are far more durable than the deal sticks, which, unless painted green, are very unsightly. Next to the bamboos we prefer the straight shoots of the hazel-nut or the filbert, but these do not last so long as the first-named. In placing the sticks around the plants, avoid inserting them too closely, so as to crowd the shoots together in such a manner as to injure the future growth. Some slender-growing plants, and most of the Carnation family, can be very well supported with sprays of birch; such, for instance, as a garden broom that has been in use a few times could be made to supply by pulling it to pieces. Where such a support is used, no ties need be made at all; whilst the same method could be employed very advantageously in the case of many annuals that are not stout enough in their stems to support themselves. Three or four such sprays thrust into the ground and inclined inwards at the points will make a capital support, and one of easy application. The appearance, too, is far better, and devoid of that formality which is often unavoidable where many straight sticks are used in proximity to each other. In the case of the Dahlias, stout stakes will be essential, and should be inserted at the planting-time, when it can be done with less risk of injury to the tubers.

Roses.—It will be necessary to continue keeping watch for the maggot, as advised in work for April, but it had now better be done either early in the morning or late at night; then there will be a greater chance of catching them when on the move. The chief enemy, however, of the Rose now will be the green fly, which, if not kept well in check, will soon do irretrievable damage to the points of the shoots and the buds. Frequent syringing with clear water will greatly help in keeping the plants free

from fly, and be an assistance to the plants themselves at the same time. If, however, in spite of these washings, the fly still continues to give annoyance, other means must be employed to destroy them. For this purpose, tobacco dust or powder, specially prepared for garden uses, is an excellent remedy; it can be purchased in tins, and dredgers also for its application. It does not require a large amount of this powder to be applied at one time, or it will be wasted to no purpose; what is given should effectually reach the insects where they are congregated together. In order that the dust may be better retained upon the plants, this dusting should be done early in the morning, whilst the dew is fresh upon the plants, or at night after a shower of rain; failing the latter, the plants should have a gentle bedewing with the syringe previously.

Another good and very effectual remedy is to thoroughly wash the plants with a mixture of quassia chips and soft soap. To prepare this for application, one pound of quassia chips should be boiled in four gallons of water for about ten minutes; after straining off the chips, add about three-quarters of a pound of soft soap. This mixture when cooled down will be ready for application; after the same has been allowed to remain on the trees for about half an hour, it should be washed off with clear water. The four gallons, if made into eight gallons by the addition of more water, could be allowed to remain upon the roses for twenty-four hours, and then washed off. Where, however, the fly is found in any quantity, the stronger solution would be the better one to apply. Roses that are planted against walls, or in any other position as climbers, should have the strong shoots of the present season secured by a tie or two, when they are of sufficient length, to guard them against injury from high winds; if injured, or in any way crippled, canker would be likely to take place, and the shoots eventually die.

Hardy Annuals.—Some of these will now transplant most successfully, such as Stocks (ten week) and Asters. It is best to do this work after a shower of rain; the plants will then not only lift with more fibrous roots, but will also suffer less after the removal. In all cases one good watering should be given them immediately they are planted, and more later on, when the weather is warm and the soil inclined to be dusty dry. Stocks and Asters look very well when planted in groups of three or five plants; in this way any vacant spots could soon be filled up. Further thinning of hardy annuals, as alluded to in last month's operations, should be seen to before the plants become too much drawn—bearing in mind that it will not be the mere quantity of plants that will yield the most pleasure to the

grower, but a lesser number of well-grown examples with a more robust constitution.

Tender Annuals.—There are a few of these which should be sown early in May on a warm sunny border, and with better prospects of future success than if sown earlier. Amongst these are the Balsams, which thrive well in this way—better, in fact, than if transplanted or turned out of pots. The seed should not be sown thickly; about three seeds inserted within a radius of four or five inches, and eventually thinned out to the strongest plant only. In order that Balsams should be seen to advantage, they should not be closer together than five or six feet, with other plants, not so tall, between them. Another excellent plant for present sowing is the old-fashioned "Love-lies-bleeding" (*Amaranthus sp.*), an easily-grown plant, and one that looks well amongst dwarf shrubs that have been newly planted and not yet had time to fill up their allotted space. If care be taken in staking them, before their long pendulous racemes, of a crimson colour, are fully grown, they will last in beauty a long time. Like the Balsams, individual plants are better than masses, possessing greater durability. The deliciously-scented flowers of *Nicotiana affinis* (a species of tobacco) cause it to be a welcome plant in many gardens. This, too, may be sown now in the open air where there has not been any means of raising it sooner under glass. The seed should be mixed with some very fine soil that is quite dry. In this manner, through the seed being so minute, it will not be so likely to be sown thickly; the soil, too, in which it is sown ought to be well pulverised, almost to a powder. Germination would be greatly assisted by covering the seed with a square of glass, or, better still, by employing the large bell-glasses (*cloches* of the French), or square hand-lights, as illustrated last month. (These are excellent protectors for any garden, and will well repay their cost in the better results obtained.) The new varieties of Gaillardias, with flowers similar to a sun-flower in miniature, of various shades of yellow, with a darker disc in the centre of each, are worthy of a place in any garden. They range in height from eighteen inches to two feet, the flowers lasting a long time in good condition. Seed should now be sown, and treated as just advised, without the soil being very fine. As soon as the plants are large enough to handle for transplanting, that may be done, provided the seed came up well, thus causing them to be too thickly placed.

Dahlias.—About the middle of May the old roots of these, that have been kept dormant, may be safely planted out in their summer quarters. The ground

should be dug deeply, and a good-sized hole made for their reception, and of sufficient depth to cover them with about two inches of soil; the place being afterwards indicated by either a label or the future stake, to preserve the plant from any possible injury just as its shoots are emerging from the soil. When this is observed, a slight sprinkling of lime occasionally, will preserve them from injury by slugs. It is important that the first shoots should be preserved, time being thus gained in the flowering, besides which the first growth is always the strongest. It will be well to examine the roots a week or two before planting; should they have been kept during the winter in a dry place, it will be a good plan to give them a good soaking in a tub of water, and afterwards keep them sprinkled daily until planted. Some kinds start into growth earlier than others; with these care must be taken not to injure the young shoots in removing them. Those that possess some well rotten leaf-soil that crumbles up fine, should place some of it around each root at the time of planting; this will tend to encourage fresh root-action more quickly.

Work during Wet Weather.—Take every opportunity, when the weather is unfavourable for out-door work, to prepare pegs for pegging down dwarf growing plants, so that they thus cover a greater space of ground. Small sticks can also be got ready for use at the same time, to save future delay when planting out.

Preparing Beds and Borders for Planting.—This should be seen to early in the month in every possible instance, even where spring flowering plants have filled the beds since the previous autumn and are now on the wane, yet yielding a little flower, so as to seem a pity perhaps to cut their flowering season off still shorter. The future must, however, be borne in mind, for, if time is lost in planting, time will also be lost in obtaining an established plant. Our summers are all too short for the beauties of many plants; it is best, therefore, to be in readiness in good time. Ground that has been occupied by other plants will frequently need extra care in preparation. It may possibly be on the dry side and dig badly; where such is the case it is best to dig it over twice, adding the manure, where needful, during the first performance; then, at the second, it will become well incorporated into the soil. Manure for flower beds should be well decomposed; and at the same time it should not consist of any element that will be of an offensive nature. Between preparing the beds and planting the same, there should be an interval of a week at the least, to permit of the ground settling down again. Where

the soil is excessively dry, it should be watered after being dug; and in any case where the opposite extreme may ensue, the digging will greatly help to bring it into a better working order, as will the watering in the former instance.

It will often happen in gardens of some years' standing that the beds become eventually too much elevated above the surrounding ground. To a certain extent this may not cause any future trouble, but in extreme cases some of the soil should be removed and disposed of by the neighbouring shrubs, the object being to secure the rainfall, or the water applied through a watering-can, penetrating the soil to as great a depth as possible. Very light soils are more troublesome in this respect than those of a more tenacious character. Where the edgings of the flower beds consist of such things as were advised to be planted during the past month, every care must be taken not to disturb such at the time of digging.

Preservation of Plants and Bulbs removed from the Beds.—Some of these should be preserved for future uses in the beds for another spring, and thus save the trouble and expense of raising a fresh stock every season. Of such are the Primroses (both common, double, and coloured varieties), the Polyanthus, and the Forget-me-nots. When these are taken up from their flowering quarters, they should be replanted in a shady spot at once, and well watered. If the stock is short of any favourite variety or special colour, they may, before being planted, be increased by division; this is better done now than at the time of replanting into the beds. In doing this it is necessary to secure as much root in each case as possible, and a little more attention must be given to watering afterwards. It is a good plan to keep each colour separate; this cannot always be done with seedlings of the first year, but afterwards there is no trouble; the advantage to be gained is that of grouping each colour for a better effect. Do not remove the old flower trusses, for there is every possibility of some of the seed ripening for future use; it will, in fact, when fully ripe, burst forth from the seed-vessels, and become scattered upon the ground, there to germinate without any attention whatever.

Hyacinths, Tulips, Squills, and Crocuses, when removed from their flowering quarters in the beds, should be covered with a little soil, just sufficient to preserve their roots from dying off in too rapid a manner at first, with a relative check to the bulbs themselves. As soon as all the bedding-plants are established, attention should again be given to these bulbs. By that time they will have lost nearly or quite all of their foliage, and may therefore be dried off by being laid out thinly where not exposed to the wet. These

will come in useful another year, though possibly they will not be so fine as at first. Oftentimes they are lost through want of attention, or from the idea that they will not again flower.

Rockwork Plants.—These will need frequent attention, more so now and during the next month or two, than later in the season. Now they are in active growth, they must not be allowed to get dry at the roots. This especially applies to the ferns, which generally send forth numbers of young fronds all at one time. If allowed to suffer whilst these are developing into their full size, they will often become deformed and crippled, and thus their beauty is marred during the remainder of the season. Frequent watering at this stage, and still more frequent sprinkling overhead, will greatly assist them in attaining to even better proportions than previously. As the old foliage of some decays, with the advent of the new it may be removed, but not all at once. Keep close watch on all weeds, and remove by hand before they become of any size; this will save the soil from being much disturbed in the operation, as well as beneficial to the plants in other ways.

Due discrimination must also be exercised in respect to any overhanging branches of trees. Shade in a moderate amount is beneficial, particularly where ferns are grown largely. Where, however, these branches exist to any great extent, there will be, as a matter of necessity, a certain amount of drip from the same. This is not desirable, nor is it beneficial to the plants underneath; it tends to promote a too damp state of the soil, and is frequently the cause of the fern foliage becoming dirty and dingy-looking before its time. No better time than the present month can be chosen to remedy this defect; or, at least, to counteract to some extent the injurious tendencies of superfluous shade. The trees now being freshly clothed in their summer dress, some better idea can be arrived at as to what branches can be spared without being missed. When branches are thus taken off a tree, it is a good plan to paint over the cut with some green paint, the unsightly character of which is thus at once removed. There are a few trees under which it is almost useless to attempt to grow any plants with satisfaction. The lime-tree is an instance of this. The glutinous matter exuded from its blossoms is imparted to anything underneath it, and thus becomes a most convenient medium for the retention of dust, soot, and the like matter, which renders foliage most unsightly, with but little prospect of its removal. Guard, also, against any encroachments from Ivy, Virginian Creeper, or any other vigorous growing climber; and remove superfluous growth before injury is done.

Should there be bare spots, it will be better to fill up just for the summer, than to allow the ground to be unoccupied. Nasturtiums would do for this purpose, except in the foreground, where either a few Stocks or an additional patch or two of Stone-crops or Saxifrages would be a better choice. The Ground Ivy (so called, but not an Ivy at all, its botanical name being *Nepeta hederacea*) is a good plant for margins of rockwork; it is easily grown, and during one season its trailing growths will extend quite to the ground. There is a variegated form of it which is very pretty. This plant, which grows readily, could be planted at this season of the year, and will quickly establish itself, the only trouble afterwards being to keep it within bounds.

Bedding-out Plants.—If some slight shelter can be given to these, in the event of a few cold nights, with possibly the glass at freezing-point at daybreak, they may be placed out of doors. For about ten days or a fortnight they may very well be stood under the shade of trees, which will afford the necessary protection without any further trouble. By the middle of the month they will be sufficiently hardened off in the case of most kinds to be planted into the beds. In the meantime, see that they do not suffer for want of water; this may happen sooner than one is aware of, should there be a sudden change to warmer weather. At the time of removing the plants from under glass, all sickly-looking and decaying foliage should be removed; and all the flowers of Geraniums, Heliotropes, Ageratums, or Fuchsias pinched off, in order to strengthen the plants; flowers that are advancing can be allowed to remain, so as to make a little show soon after being planted out. In the case of Ivy-leaf Geraniums, some care will be necessary to preserve their shoots from injury; these are very tender, and are easily broken off, even close to the collar of the plant, and thus spoiled. A slight stick should be placed to each plant, and the shoots secured thereto; this little extra trouble will be fully compensated for.

Those who are not fortunate enough to possess means of keeping any plants through the winter, or of raising them in the spring, will do well not to be in any hurry in purchasing them. The third week in the month will be quite soon enough for seeing to this. The plants should, as a matter of course, be seen before purchase is made, and examined as to quality; note also where they are then being grown; if under protection, ask for them to be hardened off before being sent for planting out. Many kinds can be purchased at a cheaper rate than others, such as Golden Feather or Feverfew, Blue Lobelia, Asters, Stocks, &c., these being readily increased from seed in the spring. They are

generally to be purchased in small boxes full, with two or three dozen plants in each box. Some one or more kinds of the afore-named should always be provided for edgings to the beds. Bedding-out plants can at times be purchased through auction sales; sometimes cheaply enough, and good plants, too, with a considerable saving. It is better to examine each lot in those instances that take the fancy, with a few reserve lots, in case some of those selected should go beyond the figure set upon them. When thus purchased, it is better to remove them as soon as possible, for in most cases no responsibility is taken after the sale; the plants in the meantime may suffer from want of water, and thus be partially spoiled.

It often happens that time cannot be given to enter into details as regards the purchase or selection of the plants. In such instances the filling of the beds may be agreed upon with the florist, who grows and supplies them for sale, either for so much in the bulk, or else per hundred for the plants supplied; in either case with a proviso that any plants which may die within a fortnight or so shall be replaced by fresh ones. Those who are well up to their business, and have a good stock from which to choose, will generally perform this work in a satisfactory manner. They should, of course, give all necessary attention afterwards for a few days for watering during warm weather.

In planting out bedding-plants, see first that they are not the least dry at the roots; it had better be the other extreme than this, for afterwards, where such is the case, it will take a deal of watering to saturate the ball of soil, whilst that surrounding it absorbs it more freely. Those that are in pots should have the drainage removed; and if so be two plants are in one pot, divide them with care, to retain the roots of each one as far as possible. Afterwards, when the beds are finished, give a thorough good watering, and repeat it every afternoon or evening for a week or so, to a lesser extent, to encourage the plants to establish themselves quickly. Peg down all those that are of a trailing habit, in order to make them go as far as possible; and repeat the operation a few weeks afterwards, to cover over any bare places. Plants that have a good quantity of roots should be covered to a fair depth with soil; whilst those that are rather too tall for their position may be inserted more deeply into the ground without any harm accruing.

A common error is often made, even by those of some considerable experience, of planting the plants too closely, and not allowing sufficient room for future growth; one plant thus impoverishing its neighbour by absorbing the moisture in the ground. In such circumstances, towards the end of the

summer, the beds look far from well; and if so be that a period of wet weather sets in, the case is even worse, through the greater amount of decaying foliage. The combination of colours is a point of taste more than anything else, but scarlet and pink should not be closely associated, neither should red and blue. Largo masses of one colour are better avoided in every garden of moderate extent, it being far preferable to aim at a variety than to rely too much on one individual kind or colour.

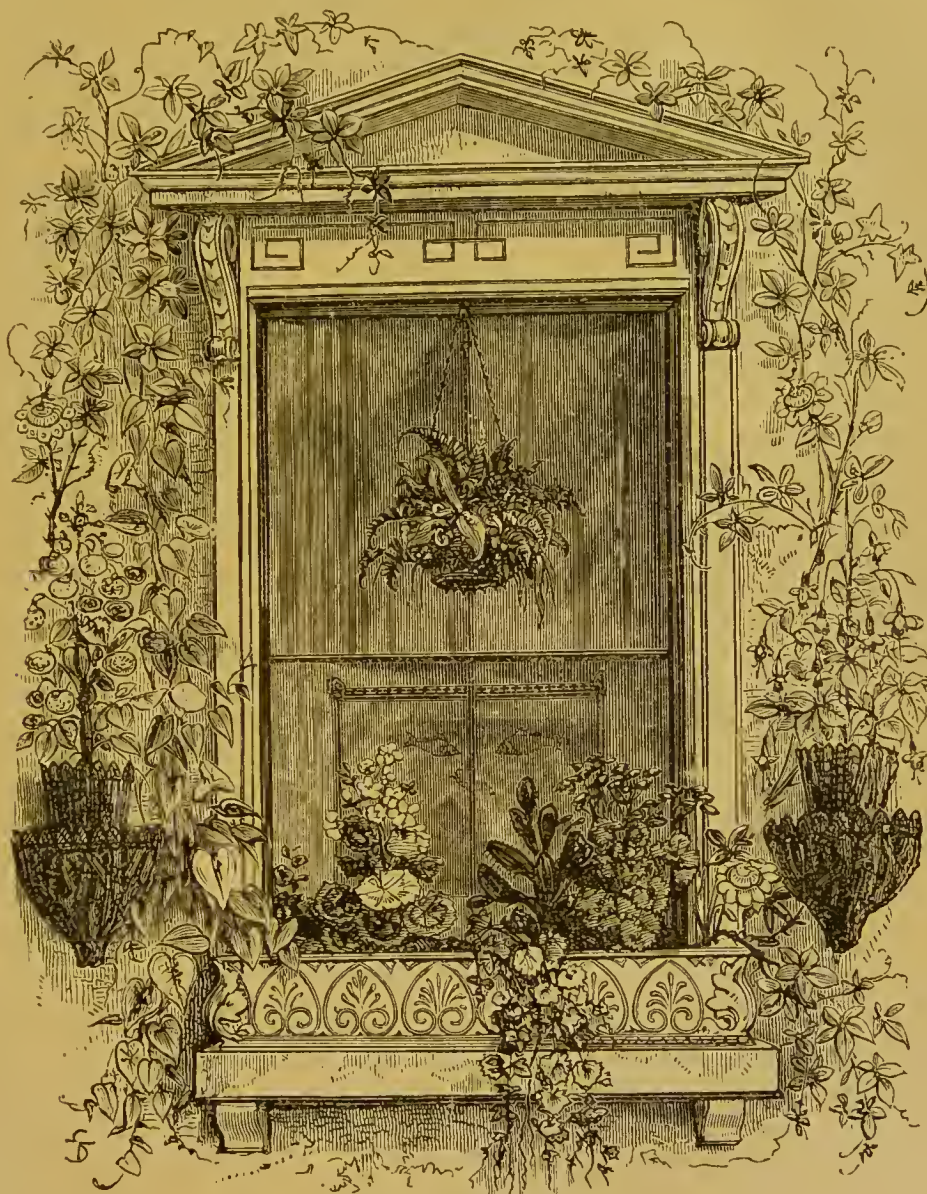
Window Boxes.—Where these are appreciated, an early opportunity should be taken to prepare them in readiness for the summer season. To do this all the more effectually, they should be removed from the windows, and kept under glass for a few days after being planted; or, if kept in the windows, let them have a slight shade during bright sunshine, with a piece of light muslin or any such material. We are advising this under the assumption that the plants are planted out in the box; where they are grown in pots it would not be necessary. The former is by far the better plan; a little more trouble at first, perhaps, but far less afterwards, with the additional gratification of seeing the plants grow and flower much more profusely with far less attention in respect to watering. Where the plants in windows are in pots, there is always a danger of their suffering for want of water to a greater extent.

The boxes should be prepared with some rough material in sufficient quantity to act as drainage, then fill them up with good soil about two-thirds of the way. The plants can then be turned out of their pots into the soil, filling up to nearly the top edge of the box as the work proceeds. They can, of course, be planted with several kinds, and colours too, of different, yet suitable, plants. It is as well, however, to suggest that a few drooping plants be arranged to fall over the edges; this imparts a better finish to the whole. At either end a *Nasturtium* or *Tropæolum* could be planted out, to be trained upwards on either side of the window, either by means of a string or a wire; sticks are not so well, being somewhat unsightly. One or two *Heliotropes* in each box would waft into the rooms some of their fragrance. For hanging over the edges as just suggested, *Lobelias*, *Petunias*, Musk Ivy-leaf *Geraniums*, and the *Creeping-Jenny* (*Lysimachia*) are all good; the first-named and the two last perhaps the best. If scarlet or pink *Geraniums* are chosen for the centres, select those with small foliage, in preference to such as are disposed to grow strongly—*Vesuvius* as a scarlet, and *Mrs. Harrington* or *Christine* as a pink, would be good ones to choose.

When the box is filled with plants—which should not be to an excessive extent, so as not to allow room

for future growth—the soil should be pressed down firmly all over, adding some where needful to keep the surface level. After the box has been placed in its position, see that it stands level, so that when

either side should be for plants in pots, to be changed when necessary. In such an arrangement as this the climbers, if possible, should be planted in the soil on the ground level, and trained up to the proper position.



A WINDOW BOX.

watered, the water does not run off the front side. Sufficient water should be given to penetrate all the soil; this can be ascertained by looking to see if it runs through the bottom or not.

The illustration here given embodies a window box and accessories, which greatly aid in the general effect. The climbers that are seen are the *Convolvulus Major* and *Passiflora Cærulea*, both of which are suitable for the purpose, in addition to those previously recommended. The brackets on

Chrysanthemums.—Early in the month of May the forwardest of the plants will be fit for re-potting into six-inch pots; this work, let it be observed, needs always to be performed before the plants become pot-bound, *i.e.*, filled with roots to an excessive extent, which will eventually tend to starve the plants. The omission of re-potting in due time will also give more trouble and labour with respect to the watering—indeed, it will cause more frequent failure than from anything else. As soon as the

roots have well taken hold of the soil next the pot, and begin to show themselves through the drainage-hole, that may be taken as a sign for re-potting. Nothing is better than good turfy loam, with a little manure added thereto, and also a few handfuls of soot, just sufficient to trace the smell of the same. Failing good loam, add more manure or some leaf-soil as an assistance. Mix the soil well together, and if in doing so there appears to be an absence of sand or gritty matter, some such should be added—road-scrappings, for instance.

See that the flower-pots into which they are to be placed are quite clean; dirty pots ought never to be used, for obvious reasons. Never re-use the pots until they are quite dry, or at the next shift the roots will be found clinging to the pot when turned out of the same, instead of to the ball itself. Place some broken potsherds over the bottom as drainage: if sufficient are not at hand, cinders will answer the purpose just as well. (Chrysanthemums are not in any matter over-fastidious as regards requirements; this is the reason why we would strongly urge their culture by the amateur, and any cultivator whose amount of garden space is but limited.) Pot as firmly as it is possible to do with the hands, allowing a slight addition of rougher soil beneath, and some of the finer parts above the old ball. If not already secured with a stake, one to each plant should be fixed at the time of potting, at the same time making a loose tie. One good watering and a few sprinklings will carry them over the first few days, when they may be subjected to the usual treatment; bearing one point in mind—that of never allowing them to suffer by getting dry at the root. They should be placed in as sunny a spot as possible, and not too closely together. A free circulation of air, and sufficient room to move amongst them for necessary attention, are what suits them best. See, in arranging them, that they are placed quite level, in order that each one takes its due proportion of water. Keep watch, as previously advised, against any injury from green or black fly, which will continue to give trouble if not kept in check. About ten days or a fortnight after this potting the plants may have their points taken off, either to be re-struck for small plants flowering in a dwarf state, or thrown away. The stopping will result in forming a dwarfer plant with three or four shoots, and is preferable for general purposes, unless extra large flowers, such as are produced for exhibition objects, are the chief aim. The stopping process is always preferable for all the small-flowered or pompon varieties, bushy plants of which look much better than those with long bare stems. It is a good plan after a very hot day that has been somewhat trying to the plants, to give them a sprinkling with the syringe as the sun is leaving them in the afternoon.

Hollies and their Culture.—A few hints on the treatment of this useful hardy evergreen shrub will not be out of place now; it may thus be the means of saving some from future injury, either by pruning or by removal. If the plants have exceeded their proper bounds, some pruning will be necessary: this can be performed now, with better results than if left till later in the year. Time will thus be allowed for fresh growth to become duly hardened before the winter season. The better plan with Hollies is to pursue a system of stopping any shoots that show a disposition of extending themselves, thus weakening other growths as well as spoiling the symmetry of the tree itself. The Holly is quite amenable to a course of close pruning, so as to produce trees of shapely contour and diversified form. Trees that we ourselves treated in such a manner, now some years ago, have often been admired for their fine proportions. The Holly, also, has the distinct advantage of being one of the best shrubs for suburban gardening; occupying the same position in that respect as the green Euonymus does to the sea-coast.

Should any removal of Hollies (that are not of excessive size) be deemed necessary, this month and June are about the best times of the year for the operation to ensure the most satisfactory results. They generally move with a good mass of roots, of which save as many as possible, and make the hole for future planting of due proportions to receive them without their being crippled. Fill up with some finer soil over the roots, and press down firmly; leaving the ground at the finish sufficiently hollowed out around the stem to retain the water, which will have to be applied liberally for a few weeks afterwards. Hollies that are too large for removal may be cut hard back into the old wood, with a good prospect of breaking out afresh and forming a good bush afterwards. This, too, may be done at this season; if denuded of their foliage for a few weeks, it will not be so noticeable as in the autumn or winter, when other trees are bare of leaves; it is better, too, for the plants themselves, with less prospect of the wood dying back, when growth recommences, so quickly. Hollies thrive best in a good loamy soil, with scarcely any manure; the latter will increase their vigour certainly, but tend to force them out of that bushy compact form of growth which is so desirable, and which, too, is the most enduring. The following are good kinds to grow, being quite distinct, viz., the Common Green (*Ilex aquifolium*), Waterer's Golden Variegated (*Ilex aurea pumila*), Silver Queen (*Ilex lucidum*), the Hedgehog (*Ilex ferox*), the Handsworth (*Ilex Handsworthiense*), the Yellow-berried (*Ilex flavum*), the Smooth-leaved (*Ilex feminum*), and the Weeping Hollies (*Ilex pendula*).

with green foliage, and the gold and silver variegated forms of the same kind.

Box Edging.—Where this was not re-planted in the spring, as advised, through not being of sufficient size, or not overgrown, it will now be advisable to clip it over with a pair of garden shears, as used for cutting hedges. This is an operation that needs to be done with care, in order to secure a uniform appearance throughout its length; it is best to keep taking a view of the work at frequent intervals, in order to do this properly. It is not advisable to cut it below the foliage, nor will it be necessary to do this, unless it has been very badly neglected in previous years. The top should first of all be taken off, afterwards the sides, then remove any weedy growth that may have gained a foothold. If there are any vacant spots, a sufficient quantity may be taken from the thickest parts to fill up with before the clipping is done. After all has been swept up clean, a good washing, by means of a waterpot and rose, will brighten up the otherwise dusty-looking foliage, at the same time being of benefit to any that has been re-planted.

The Kitchen Garden.—Some of the later kinds of Peas should now be sown—say, twice during the month, or three times if there is room at disposal. A few more rows of French Beans ought to be arranged for, also Scarlet Runners; two sowings of the former to prolong the succession, and one of the latter, which are of a more perpetual-bearing character than the first-named. If the Vegetable Marrows that were sown last month are not promising well, some more seed should be sown without delay; it will now germinate more quickly. In all the foregoing instances some soil should be drawn up to the young plants as soon as they are well out of the ground, and the same operation repeated in the case of those that were sown last month. In doing this, all the ground between the rows should be covered by the working of the hoe; the weeds that are starting into growth will thus be destroyed, and the plants benefited at the same time. The hoe, in fact, if freely used, is nearly the only tool that is needed on the ground at this season; it can be used without any great amount of manual labour, and if persevered with early in the year will save extra labour later on.

The main crop of Beetroot should be sown about the middle of the month in the manner advised for root crops earlier in the year; these latter will need the soil to be frequently stirred between the rows, especially if there should have been any heavy showers of rain to beat down and render the surface of the soil somewhat crusty. By the end of the month the earliest of the Onions will be fit for using, either for

flavouring in salads or cooked dishes; it is better to begin upon them early, those remaining thus having a better opportunity of developing themselves. The Parsnips will also need to be thinned out, to about one foot apart when the work is completed; it is better to leave them at six inches at first, in case any should not grow well. In thinning Carrots, it is necessary to be rather more cautious; in some districts, and in some gardens of long standing, they are frequently attacked by a wireworm which will destroy numbers of them. Our own plan as a remedy is never to thin them at all. Parsley is at times a trouble to rear from the same cause; this should be treated in a similar manner in such instances. During showery weather the Carrots, Parsnips, and Onions will be greatly assisted by a dressing of soot, just sufficient being used to impart its colour to the young plants. This dressing will help to keep in check the wireworm just alluded to, and also the fly from attacking the Onions and Parsnips.

The Celery recommended to be sown last month will soon be fit to prick off on a little patch of well-prepared soil. This should be done before the plants get much drawn; about four inches apart each way will allow for a slight stirring of the soil afterwards; it is an operation best suited for moist and showery weather; at other times more attention in keeping them watered will be necessary, and some slight shading for a few days afterwards as well. Guard against injury from slugs by slight dustings of lime. Lettuce should be planted out during cloudy weather, a few rows at a time. Never allow them to spoil one another in the seed-bed; if too thick, thin out early, rather than spoil the greater portion. Sow again for successional crops, screening the bed from direct sunshine till the seed is up. About the middle of the month is a good time to sow seed of the common Watercress, which may be grown in any common garden soil in a moist and shady spot. It does not follow that, for the want of water, the culture of this useful British plant should not be attempted. It is grown almost as easily as groundsel, and provides during the summer and autumn a valuable addition to the salad. The chief attention needed is a good supply of water in dry weather; and in cutting it for use, take the precaution to commence upon it before it gets too far advanced, when it will be found rather more pungent than when grown in running water. The seed being very fine, some care is needful to secure its growing, by working the soil down finely; and after sowing, sprinkle over the bed some finely-sifted soil.

Herbs that have been raised from seed will possibly have come up rather thickly; these should be thinned out at an early stage, at the same time

keeping a sharp eye upon any weeds that may be amongst them. Tomatoes should be gradually hardened off, ready for planting from the 14th to the 21st of the month, according to the locality and position. Keep them in the meanwhile well supplied with water, and fully exposed to the sun. As soon as planted out, secure them from injury by high winds—if against a wall, either by ties or nails and shreds; if in the open ground, with stakes.

Cucumber culture in frames is no difficult matter with ordinary attention. Those who contemplate a trial will do well to commence early in the month by preparing their frames as soon as the plants therein can be ventured in the open air. A few barrow-loads of stable manure mixed with leaves will greatly assist at the commencement; this fermenting material should be turned about twice or three times, and then made up rather larger in size than the frame, which should be placed upon it at once, and afterwards the interior covered over with a layer of good loam to a thickness of about three inches. The object of this is to keep any rank steam rising from the bed itself—thus, in a measure, causing it to lose its heat rather more quickly—and to guard against the young plants being injured by it through scalding. Then, in the centre of each light, a mound should be made of loam mixed with some decomposed manure or horse-droppings. If the temperature of the bed does not exceed that of new milk, or thereabouts, plants that have been procured from other sources may be planted out, two to each light—one to be trained up, and one down, the bed. As soon as these plants are fairly started into growth, and are gaining strength, they should be stopped, and two or three shoots taken from each towards the ends of the frame. These shoots, as soon as they are of sufficient length, should be pegged down to the soil, into which they will soon root, and thus set up a semi-independent existence. For the first few weeks, as the roots show themselves upon the surface of the soil, a little more should be added to cover them; this can be taken from the sides, where by that time it will not be so much needed. When water is given the plants, it should not be taken direct from a cold supply, but be heated to about the temperature of the soil. Air should be given when the temperature rises to about 75°, and it should not as a rule exceed 85°, or at the most 90°. When the maximum is reached, a slight shading had better be used to guard against the plants being burnt. If plants are not easily to be had, seed should be sown on each mound—from four to six seeds, to be thinned out to the two strongest, and treated afterwards in a similar manner to the others.

A bell-glass placed over the seeds until they are well above the soil will prevent, or at least considerably lessen, the risk of injury from the depredations of mice. For the first three or four weeks a mat or some similar covering should be spread over the glass at night, and removed early in the morning, so as to preserve a better and more even temperature.

Fruit Trees.—The directions for last month will still hold good, with an even closer watch against injury from insects; a free use of the syringe in fine weather is always beneficial. The Strawberry beds will soon need to be top-dressed to preserve the fruit from injury in the time of heavy rain. This can be done with the mowings from off the lawn, or, what is better still, the long, almost clean, straw from the stables, out of which all the manure has been shaken. This should be worked around each plant, so as not to cripple any of the flower-spikes. A good dressing of soot and lime should first be sprinkled upon the ground between the plants to kill the slugs off before the fruit is ripe.

The Greenhouse and Vinery.—The former will now be looking gay where a good stock of plants has been worked up. The removal of the bedding-out plants will give much more room to the regular occupants of the house, with better opportunities for looking after those plants that will continue to make a good show through the summer months. The previous advice with respect to Fuchsias will need to be still carried out; in some cases another pinching of the shoots will be beneficial—it may, in fact, be done up to the end of the month with those that are growing vigorously. Another potting for those that promise to make the best plants will be an assistance to them; these should be the last to be stopped. Now they are growing away freely, more water at the roots will be beneficial; and an early opportunity should be taken of placing at least one stick in each plant (unless they are very bushy). A lot of support can be afforded with this by careful ties, and slinging one branch to another.

The large-flowered Geraniums (Pelargoniums) now showing for flower will need an abundant supply of water; at intervals let it be with the addition of some liquid manure, or a slight sprinkling of an artificial manure. Azaleas that are coming into flower must not suffer for want of water. Camellias, too, that have or are now making their new growth will need closer attention in this respect: the latter must not be exposed to the full sunshine whilst the young leaves are tender. A few pots of

Heliotrope will, when in flower, perfume the whole house; where these are appreciated, it will be well to pot some into larger pots, and keep them pinched for a month or six weeks; by this means good plants can be had that will continue to flower throughout the rest of the summer. Some plants of Geraniums should be treated in a similar manner for flowering during August and September, when their flowers will be a great assistance, and add much to the gay appearance of the house when many plants will have become somewhat stale.

Liliums (such as *L. auratum* and *L. lancifolium*) will now be sending up their shoots. Preserve these from any possible injury; at the same time give them all the light possible; but water yet for a few weeks to come with every caution, or failure may ensue with newly-potted bulbs that are not yet well established with a good stock of roots. When staking these Lilies, be careful not to put the stick close to the stem in such a way as to injure the bulb. Tuberous Begonias will also need nearly the same advice as given for the Lilies; a little more water, perhaps, in some cases, where they are forwarder than usual; they must not suffer in this respect either one way or the other. They will also grow well with partial shade, and should not be exposed to any great amount of draught. For continuous flowering during the summer months, they cannot well be excelled. A few plants of the fancy-leaved Coleus, if purchased during May, and each one potted once into a larger-sized pot soon afterwards, will grow into handsome plants in the course of a few weeks, and last in good condition till the end of September.

The Marguerites are useful under glass equally as much as in the open borders, and flower continuously. A few plants of Petunias, that have been

raised from seed, and the Blue Lobelia in like manner, will both flower well in pots, but should not have too much shade. The Lobelia looks well as an edging to the stages intermixed with the Giant Musk. Plants that have ceased to flower for the present season must not on that account be overlooked; they must receive just the same attention as before. This, we fear, is a point that is frequently lost sight of. Acacias, Epacris, early-flowering Heaths, Cytisus, and Coronillas will now need a slight pruning to keep them shapely; keep them in as light a position as possible, and water moderately till they are in active growth.

Keep a watch upon climbing plants. Some regulation of the shoots may be required from time to time, or a little thinning out, or possibly a few ties to support young growth. Any symptoms of green fly should be stopped as soon as possible by a few gentle fumigations on a quiet evening; taking the precaution, now there is tender foliage about, to have everything dry overhead.

The work in the vinery will be a continuation of that of last month, gently bringing down the shoots to the wires, and away from the glass, on every favourable opportunity. Leave only one bunch upon each shoot as soon as the best can be decided upon, and pinch out the point of each shoot at two or three joints beyond the bunch, and the lateral growths afterwards at the first joint. Take care not to allow the temperature to rise to any great extent, without any air being given in the morning in due time. On fine afternoons damp down the floors, &c., when the house is closed, withholding it when the weather is showery, and thus save the trouble of any extra fire at such times. No watering will yet be required if the vine roots are outside; if, on the contrary, they are all inside the house, some may be needful.

CONSTITUTIONAL DISORDERS.—II.

It may perhaps be as well to point out, at the commencement of this further list of "constitutional" disorders, that the classification of diseases here adopted has no claim to scientific accuracy, and that it is purely one of expediency. In a work professedly of a popular nature it would obviously be impossible to enter into a description of the morbid or pathological conditions which are found on making a *post-mortem* examination, and on which alone a strictly scientific system of classification could be based. The various headings which have been adopted serve well for all practical purposes, and greatly facilitate the work of reference; but

it cannot be too strongly urged that it is of the utmost importance to recognise the fact that there is no such thing as treating a *disease*, and that it is the *patient*, suffering from a departure from his normal condition of health, who requires treatment. Some of the headings are the names of symptoms only. For example, hæmorrhage or bleeding is not in any sense a disease, but is simply the outward and visible sign of some internal morbid condition. When these facts are clearly appreciated, less difficulty will be found in understanding the exact meaning which must be assigned to the following terms.

Obesity.—Obesity or corpulence, by which is meant excessive fatness or the undue development of fat beneath the skin, can hardly be regarded as a disease, but is certainly a source of much inconvenience and discomfort to many people. It is not peculiar to any one period of life, although age does undoubtedly exercise a considerable influence on the production of fat, people after the middle of life often "putting on flesh" rapidly. Women display a greater disposition to corpulence than do men, and hereditary tendency is said to exert a marked influence in this respect. Some people are naturally fat, whilst others seem to be naturally lean; some become corpulent on a moderate diet, and others remain thin even when living on the fat of the land. Excessive indulgence in food, combined with indolent habits, will make most people fat. Some foods are especially fattening; for example, those which contain starch or sugar in large quantities. Most people who get excessively fat take a great deal of fluid in some form or other. It need not of necessity be in the form of alcohol, although that is not infrequently indulged in to an inordinate degree.

Obesity is not conducive to strength or longevity. It usually means diminished vital power, and loss of bodily and mental activity. The muscles lose their tone, the countenance becomes bloated and sallow, the breath is short, the heart is weak, the liver is inactive, and the digestive functions are imperfectly performed. Fat people who suffer from any acute illness often experience a prolonged convalescence; in fact, they are always bad subjects for treatment.

It is difficult to say what constitutes obesity, and to know where to draw the line between what is commonly called "embonpoint," and the condition known technically as corpulence. About some people, however, there cannot be much doubt. As an example of extreme corpulence we may quote the case of Daniel Lambert, who at twenty-three years of age weighed thirty-two stone, but could walk from Woolwich to London. His subsequent maximum weight reached fifty-two stone eleven pounds. The case is mentioned of a girl who at the age of twelve weighed thirteen stone, and of a boy who when three years old weighed eight stone twelve pounds.

With regard to the treatment of obesity, the great thing is to give up starch and sugar, and to limit the quantity of fluid taken. This method depends on ordinary physiological principles which have long been recognised. It was made popular many years ago by Mr. Banting, the undertaker. His plan of dietary was as follows:—

Breakfast (about 8.30 a.m.).—Four or five ounces of beef, mutton, kidneys, boiled fish, bacon, or cold meat (except pork or veal), or a couple of eggs (not hard-boiled), a large cup of tea or coffee (without

milk or sugar), a little biscuit, or an ounce of dried toast, brown bread, or crust off a common household loaf.

Dinner (about 1 p.m.).—Five or six ounces of any fish (except salmon, or herrings, or eels), any meat (except pork or veal), any vegetable (except potatoes, parsnips, beetroot, turnips, or carrots), one ounce of dry toast, or crust from the loaf, fruit out of a pudding (without sugar), any kind of poultry or game, and two glasses of dry sherry, or three of good sound claret. (Champagne, port, and beer are forbidden.)

Tea (about 5 p.m.).—Two or three ounces of fruit, a rusk or two, and a cup of tea (without milk or sugar).

Supper (about 8.30 p.m.).—Three or four ounces of meat or fish and a glass or two of claret.

The arrangement of the hours of the meals would obviously prove inconvenient to many people.

The same principle of treatment is expressed in a somewhat different way in the following table. The corpulent may eat:—Butcher's meat of all kinds, ham, poultry, game, fish of all kinds (fresh, salted, and cured), eggs, cream cheese, cream, greens, spinach, watercress, mustard-and-cress, lettuce, puddings made with gluten flour, semola, macaroni, or vermicelli.

They must avoid eating:—Sugar, wheaten bread, rice, arrowroot, sago, tapioca, macaroni, vermicelli, potatoes, carrots, parsnips, turnips, peas, French beans, cauliflower, broccoli, asparagus, pastry and puddings of all kinds, fruit of all kinds, either fresh or preserved.

They may drink:—Tea, coffee, dry sherry, amontillado, mazarilla, claret, brandy, and spirits which have not been sweetened, bitter ale in moderation.

They must avoid drinking:—Milk, sweet ales (mild and old), port and stout, port wine and liqueurs, and all sweet wines.

The following dietary has been proposed, and may serve as a general guide to the amount of food which can be taken with safety:—

Butcher's meat, 12 ounces before being cooked.
Gluten bread, 6 ounces.
Sugar, 1½ ounce.
Butter, 1 ounce.
Green vegetables, 4 ounces.
Milk, ½ pint.

This may be divided into three or four meals, and meat may be taken with each meal if thought necessary.

There is probably no drug which is of any particular value in the treatment of obesity. There are many quack remedies sold, but their efficacy depends less on the medicine than on the dietetic directions which accompany them. The great points to remember are to reduce the amount of food: to cut off

starch, and sugar, and starchy vegetables entirely; to drink little; to sleep not more than seven hours out of the twenty-four; and to take exercise—either on foot, horseback, or a tricycle.

A dietetic treatment much practised in Germany is one devised by Professor Ebstein. It is a modification of that introduced by Dr. Harvey, and known in this country as Bantingism. By the Ebstein method three meals a day are allowed, the routine being as follows:—

Breakfast.—Two hundred and fifty grammes of tea without sugar or milk; fifty grammes of white bread, with plenty of butter.

Lunch.—Fatty soup, made from a marrow-bone; one hundred and twenty to one hundred and eighty grammes of meat, containing much fat; some vegetables; stewed fruit without sugar; two or three glasses of wine. Later in the afternoon, one cup of tea without milk or sugar.

Evening.—One cup of tea without milk or sugar, one egg, or a piece of fat ham or fat roast meat, or cheese, and fresh fruit; no alcohol.

A gramme is fifteen and a half grains.

As a result of this dietary, Ebstein, who was his own first patient, reduced his weight in the course of a year eighteen German pounds. He states that the use of fat produces a sense of satiety and allays the thirst, which is commonly a source of inconvenience under the Banting treatment.

Another mode of treating obesity was originated by Professor Oertel, who suffered from excessive obesity, with great shortness of breath, failure of heart power, inaptitude for exertion, and commencing dropsy. After failure of treatment by the most renowned physician of Munich, the professor originated the so-called “Oertelischen-Kur,” known more commonly as the “Schweninger-Kur.” The essential features of this plan are regulation of diet, almost complete abstention from water, and systematic exercise—preferably, in the form of mountain climbing.

In a little book published anonymously some years ago, under the title of “Advice to Fat People,” the author, a captain in the army, states that for thirty-eight years he suffered from obesity, having, at the age of eighteen, weighed two hundred and fifty-two pounds. In ten months, by adhering strictly to the following dietary, he reduced his weight one hundred and seventeen pounds:—

6 A.M.—One pint of black coffee and one ounce of coarse brown bread or biscuit.

9 A.M.—Four ounces of lean meat, three ounces of brown bread or biscuit, and half a pint of coffee.

2 P.M.—Six ounces of lean meat, three ounces of brown bread or biscuit, six ounces of green vegetables, and half a pint of any fluid excepting ale,

effervescing wines, or aerated water, followed by half a pint of coffee.

6 P.M.—Half a pint of coffee.

At supper two ounces of brown bread or biscuit, and a couple of glasses of sherry or claret. Fruit *ad libitum*, and a dose of liquorice powder as a laxative as often as necessary.

The average amount of food required daily by the human adult is generally acknowledged by competent authorities to be as follows:—Albuminous materials, 30 drachms; fat, 25 drachms; starchy hydrocarbons, 92 drachms. The analysis of the ration allowed Mr. Banting, given by Dr. Carl Zahn, shows that he took daily—Albuminous materials, 43 drachms; fat, 2 drachms; starchy hydrocarbons, 5 drachms. While the Ebstein ration contains—Albuminous materials, 25 drachms; fat, 21 drachms; starchy hydrocarbons, 12 grammes.

As a foundation on which the patient, with a little care, may arrange his dietary, the following table of analysis of various kinds of food is appended. It shows the approximate amount, by weight, of food materials in various common articles of diet. Decimals have been omitted:—

Food.	Water.	Albumen.	Fat.	Hydrocarbons.
Mean of ten different kinds of simple soup	91	1	1	5
Mean of ten rich soups	83	2	3	9
Boiled beef, lean, from young heifer	66	28	1	..
“ “ fat	49	38	12	..
Beef from “steers and oxen,” boiled	56	34	7	..
“ “ roasted	59	38	1	..
Roast “meats,” including “beefsteak, game, birds, &c., reckoned as an average	58	38	2	..
Veal, roasted	78	15	5	..
Fricassee veal, with fat and milk	57	22	10	10
Fat roasted pork or goose	40	34	24	..
Smoked ham	59	25	8	..
Boiled fish	74	22	..	..
Shellfish	80	17	..	..
Mean of seven different kinds of meat-foods	44	8	15	28
Potatoes, roasted	72	1	3	21
“ “ as salad	73	2	3	21
“ “ boiled	70	1	3	24
Salad, green	94	1	2	2
Vegetables (general average)	62	6	1	30
White bread	40	6	..	51
Black bread	31	11	..	57
Dried fruit	1	13	3	81
Milk	87	3	3	4
Cream	65	3	26	3
Buttermilk	19	4	..	3
Butter	40	..	83	..
Cream cheese	35	17	40	5
Lard	..	..	99	..
Sugar	2	..	..	96
Vinegar	94	..	..	..
Tea	97	..	..	..
Coffee	94	..	..	1
“ “ with milk	93	1	2	1
Chocolate	89	3	3	3

Hæmorrhage.—This term is very comprehensive. The bleeding may be from a cut or wound, or it may be from the nose, or from the lungs, or

from the stomach, or the bowels, or the womb, or possibly from piles. A little loss of blood will probably do no harm; but when it amounts to more than a few tablespoonfuls, the sooner it is arrested the better. A small hæmorrhage from the lungs is much more serious than a large one from the nose; and, as a rule, bleeding which comes on spontaneously means more than bleeding which results from a blow or some obvious injury. Bleeding from the lungs is a constant accompaniment of consumption, and should always lead to a careful examination of the chest. It may be well to postpone the investigation till the hæmorrhage has stopped, as the less the patient is disturbed the better; but as soon as it has ceased, the stethoscope will have to be produced and a thorough examination made. Bleeding from the lungs varies much as regards quantity. The amount of blood may be very small, perhaps not more than a teaspoonful, mixed in streaks with the phlegm; or, on the other hand, there may be a pint or more. When the bleeding is from the lungs, the blood is usually bright red, and is often aerated from the coughing, which is excited by the effort of expulsion. Bleeding from the stomach is usually due to the presence of an ulcer, and the blood is dark in colour and mixed with food. Bleeding from the bowels may be due to a variety of causes, and the character of the blood varies according to the part of the intestines affected. When it comes from high up, it often presents a tarry appearance, from long retention, and the action of the various secretions which are poured into the intestinal tract. The blood from piles is bright red in colour, and is usually passed either with a motion or immediately after one.

The occurrence of bleeding from any internal organ necessitates the attendance of a doctor, and the sooner he is sent for the better. Pending his arrival, however, a great deal may be done. The patient should be kept in the recumbent position, should not be allowed to talk or excite himself, and the windows should be thrown wide open. Should the bleeding be from the lungs or stomach, he should be given little pieces of ice to suck, and should continue to suck them without intermission. Stimulants should be avoided, as alcohol quickens the action of the heart and increases the mischief. When the blood comes from the chest, the inhalation of turpentine is most useful. Half a teaspoonful of common oil of turpentine should be placed on a pocket-handkerchief, and the patient should be directed to inhale the vapour, taking it well into his chest. The handkerchief must not be placed too near the face to begin with, or the pungent odour will bring on an attack of coughing, which is not desirable. Little by little, as the patient gets more used to it, the

handkerchief may be brought nearer and nearer the mouth, until the drug is inhaled in a concentrated form. When the bleeding is very copious, the patient will have to sit up, or he will be in danger of choking. Cupping-glasses are useful if they can be obtained, and if any one knows how to apply them. In the absence of proper cupping-glasses a wineglass or small tumbler will do almost equally well. The best way to make them stick is to take a small piece of rag or lint, dip it in spirit—brandy or gin, for instance—set fire to it, and then drop it into the glass. When it is well alight, the glass must be applied promptly to the skin, taking care that it is quite level, and it will stick on without difficulty. The glasses should be applied to the back; and as soon as one drops off, another must be in readiness to take its place. This simple procedure will often prove successful in cutting short even a severe attack of bleeding.

There are many medicines which, given internally, will check bleeding—in fact, almost any drug having an astringent taste will do so. The best is that which can be most readily procured. If there is any gallic acid or tannic acid in the house, give half a teaspoonful in a wineglassful of water; if tincture of steel is at hand, give thirty drops in water; but if none of these are procurable, give a couple of teaspoonfuls of vinegar in the same way. A draught of salt-and-water, although not very astringent, may answer in the absence of anything else. A teaspoonful of oil of turpentine in a cup of milk is one of the best remedies. Alum is a common remedy, and half a teaspoonful may be given in water every four hours. Ipecacuanha wine is found in almost every household, and a teaspoonful of this in a wineglassful of water is very useful, acting probably by exciting nausea and contracting the bloodvessels. If there is a good medicine-chest in the house, there is never any difficulty, and a teaspoonful of the liquid extract of ergot should be administered at once, followed by three or four tabloids of tannic acid. When the first rush of blood is over, hazeline is the best remedy, given in teaspoonful doses in water every four hours. All alkaline medicines should be avoided, and sal-volatile is especially hurtful, as, like alcohol, it excites the action of the heart.

When the blood is passed with the motion, it is usually due to piles. The bleeding varies very much in amount; sometimes there are only a few drops of blood, but there may be half a pint or more. It may be irregular, occurring only after a costive motion, or it may be a daily occurrence. There is a popular idea that bleeding from the piles is good for the health, and that it "relieves the system;" but this is very rarely the case, and nine times out of ten

something will have to be done to stop it. The patient must go to a doctor, who will examine and see whether the piles are external or internal, and whether there is any fissure or fistula. Very likely an operation of some kind will have to be resorted to before a cure can be effected. As regards immediate treatment, half a pint of cold water injected into the bowel is the most efficacious remedy, and this may be followed by half an ounce of hazeline, either swallowed or injected. The motions should not be allowed to become hard; and a teaspoonful of confection of sulphur, or of compound liquorice powder, will have the desired effect. Many people find relief from Carlsbad salts or some laxative mineral water, such as the Friedrichshall, Püllna, or Hunyadi-János.

Sometimes the bleeding comes from the womb, and then the attendance of the doctor is especially useful. The patient should be made to lie down in a cool room, and cloths wrung out of cold water should be applied to the abdomen. Gallic acid or tannic acid may be given in twenty-grain doses; and should the condition of the patient be alarming, it would be justifiable to give a teaspoonful of liquid extract of ergot in water. Dr. George Bird recommends, in the absence of drugs, that a handful of the patient's hair should be thrust into her mouth, so as to excite efforts of vomiting.

For some days after an attack of bleeding, the patient should be kept in bed, and should not be allowed to get up for any purpose. Everything should be taken cold, and even the coffee and beef-tea should be iced. The ruptured blood-vessels must be allowed to heal, and this is a work of time. The bowels should be moved by mild and gentle purgatives, such as an occasional dose of castor-oil or a five-grain rhubarb pill, repeated as often as may be necessary. When the patient is sufficiently recovered, he should go into the country, and endeavour, little by little, to regain his lost strength. He will feel weak at first, but after a time he will be able to get about, and even to take long walks. He will look pale for some time, and the condition of the blood must be restored by the plentiful administration of iron. Wyeth's Dialysed Iron is well adapted for this purpose, and should be taken in teaspoonful doses in water three times a day. It is not astringent, and does not as a rule confine the bowels. Another good form is the old-fashioned Bland's pills, which contain both the sulphate and the carbonate of iron. Two pills must be taken three times a day with a little water. Burrough's Beef and Iron Wine is an excellent restorative, and should be taken with a biscuit at eleven o'clock, as a kind of light lunch. When there is much loss of flesh, the Kepler Extract of Malt and Codliver Oil will answer admirably. It

contains nearly half its weight of the oil; but being a solution, and not merely an emulsion, it has no disagreeable odour or taste. It should be taken in milk twice a day immediately after meals. Many people—even children—like it very much, and complain that they miss it if omitted even for a few days. Plenty of fresh air and plenty of bright sunshine are important factors in the restoration of the patient to health. Without fine genial weather he cannot take outdoor exercise; and being shut up in a small, close, and perhaps ill-ventilated room is not conducive to recovery. A sea voyage is well worth consideration.

Perspiration (Excessive).—Excessive perspiration is a common accompaniment of consumption. It is not met with in every case, but is present in a good many. It usually comes on in the early morning, and is frequently very profuse. Sometimes it wets the bedclothes through, just as if the patient had been in a bath. There are many remedies for this condition, some of which are efficacious; but it must be remembered that all real treatment must be directed to the disease on which it depends. When a patient is consumptive, such drugs as codliver oil, phosphorus, and extract of malt, are most likely to prove of avail. Still, much may be done, even in the way of treating symptoms, and there are many remedies which are reputed to exert wonderful powers in checking excessive perspiration.

Oxide of zinc is a good remedy. It is given in the form of a five-grain pill, one or two being taken every night at bedtime until the excessive sweating is stopped. It is an old-fashioned means of treatment, but it is one of the best.

Belladonna is very useful in checking sweating. The best plan is to give ten drops of the tincture in a wineglass of water every night at bedtime. The effect is usually prompt, and the only fear is that it may make the skin too dry. The active principle of belladonna is atropine, and this, too, is efficacious in arresting sweating. The sulphate of atropine is given, and the dose is one-hundredth of a grain. It may be taken either in a pill or tabloid, and it should be repeated every night until the desired effect is obtained.

Dover's Powder, although under certain circumstances it will induce sweating, will, when it is excessive, check it. The dose is ten grains, which may be conveniently administered in a couple of pills. It should be taken at bedtime.

Another excellent and very efficacious remedy is picrotoxine, the active principle of a drug known as *Coeculus Indicus*. It is taken in doses of a sixtieth of a grain, made into a pilule. One is given at bedtime, and may be repeated if necessary during the

night. The effect is usually very marked, and this remedy often succeeds admirably when all others have failed to afford relief.

Quinine is frequently employed to check sweating, in doses ranging from two to five grains. It may be given in solution, or in the form of tabloids. In any case it should be taken at bedtime, and repeated if necessary during the night.

Sponging the chest and limbs with aromatic vinegar is by no means a bad plan, the only objection being that the patient is apt to catch cold from the exposure.

There is one particular form of perspiration which is often a source of great inconvenience and distress, viz., sweating of the hands and feet. It is often accompanied by a persistent and disagreeable odour. It is sometimes a purely local complaint, but is more frequently an indication of some constitutional weakness or debility. To check excessive perspiration of the hands, they should be well rubbed with belladonna liniment every night on retiring to rest. For sweating of the feet oxide of zinc, or salicylic or boracic acid, may be used as a dusting powder inside the socks. The socks themselves should be changed twice, and even up to four times, a day, and should be thoroughly boiled before being again worn. The boots should be light, and should be ventilated by one or two holes bored through the heel from behind forwards. The general health should be improved by taking such remedies as iron and quinine. Plenty of outdoor exercise in a good bracing air will do much to aid the cure. The bowels should be kept well open.

Debility.—The term debility may be taken as being synonymous with feebleness or weakness, and is used to indicate that the normal functions of the body are discharged with less than their accustomed vigour. It is a condition which is frequently inherited, but is more commonly developed during the earlier years of life. It may be produced by defective hygienic surroundings, or may be the result of some chronic or acute illness. Often the patient has no actual complaint to make, is in no bodily suffering or discomfort, but simply feels that he is "not up the mark," that he cannot do his work with his accustomed ease, and is, to use a common expression, "below par." Debility may be general or it may be local, some particular organ being affected. When a person suffers from palpitation on the slightest exertion—such as going upstairs—it is said that there is weakness or debility of the heart; and in the same way, when the slightest exposure to cold gives rise to cough, we say that the pulmonary organs are debilitated. When there is pain in the limbs after exertion, it is usually due to muscular

debility, the muscles being weak and ill-nourished, and unable to meet any strain that may be thrown on them. Overwork is undoubtedly one of the commonest causes of debility; but overwork, if unattended with anxiety, rarely does any permanent harm. A much more potent cause, especially in women, is underwork. They frequently have very little to occupy their time or attention; they have no set duties or regular occupation, and sit at home, day after day, in a heated, badly-ventilated room, taking little or no care to exercise their muscles or bring the various organs of the body into action. A person, to be well, must do a certain amount of work, and both body and mind must be exercised. A lazy indolent life is the cause of debility in one of its worst forms, and the patient who wishes to be cured will find that a thorough revision of his habits is absolutely necessary.

It is difficult to lay down general rules for the treatment of debility, for it springs from so many different causes. There are a few general principles, however, which will guide us. If there is loss of appetite and distaste for food, the best remedy is quinine. There is no occasion to give it in large doses; and two grains three times a day, before meals, will be quite enough. There are many ways of giving it; some people prefer the simple powder, whilst others take it dissolved in sherry or mixed with tea. It is not soluble in water, but the addition of a few drops of dilute sulphuric acid will cause it to dissolve readily, making a clear solution. An eight-ounce mixture contains sixteen grains of sulphate of quinine, fifteen drops of dilute sulphuric acid, and the rest water. It is a clear colourless mixture, having an agreeably bitter taste, and two tablespoonfuls should be taken before each meal. It must be admitted that, at the best, this is but a cumbersome and inelegant method of ordering the medicine. No one would willingly drag a big bottle of medicine about with him if he could help it, especially as it contains only eight doses. It is far preferable to order the quinine in the form of "tabloids" of bisulphate of quinine. Quinine varies a good deal in price from time to time, but usually a bottle containing one hundred two-grain tabloids can be obtained for about 3s. 6d., or perhaps less; and these, at the rate of three a day, will last over a month.

Some people complain that quinine gives them headache, and are glad to fall back on gentian, calumba, quassia, or some other vegetable bitter. An excellent gentian mixture is made by putting fifteen drops of dilute hydrochloric acid, fifteen drops of chloric ether, and a tablespoonful of compound tincture of gentian, in a wineglass of water, and taking it three times a day before meals. When the

patient has lost his colour, and the lips and nails are white, iron is the best remedy. Fifteen drops of tincture of perchloride of iron and ten drops of chloric ether in a wineglass of water are excellent; but better still is a pill made of five grains of dried sulphate of iron and a drop or two of syrup. The iron, to do any good, must be taken steadily three or four times a day for at least a month. It is less likely to upset the digestion if taken after instead of before meals. It sometimes induces constipation, but this difficulty is easily overcome by the use of some aperient water or mild purgative. Sometimes iron and quinine are given in combination; and the ordinary tonic iron and quinine mixture contains one grain of sulphate of quinine, two grains of sulphate of iron, and one minim of dilute sulphuric acid, to the ounce of water. Arsenic is a good remedy—the dose of arsenious acid, in the form of a pill, being one-fiftieth of a grain three times a day. When there is great debility and nervous prostration, it is an excellent plan to give quinine, iron, arsenic, and strychnine in combination. Tabloids are sold having the following formula:—

Sulphate of quinine, one grain.
Reduced iron, one grain.
Arsenious acid, one-twentieth of a grain.
Strychnine, one-thirtieth of a grain.

One tabloid to be taken three times a day after meals.

Phosphorus is excellent when there is nervous prostration, and a one-hundredth of a grain should be taken in the form of a pill three or four times a day for at least a month. In this condition Fellows' Syrup of the Hypophosphites is an old-established favourite. When there is loss of flesh, in addition to general debility, codliver oil may be safely recommended; and its use may be alternated from time to time with the administration of the Kepler Extract of Malt.

An important element in the treatment of debility is change of scene, change of work, and change of air. It may perhaps be impossible for the sufferer to give up work entirely, even for a time, but he may be able to make some alteration in his method of working. For example, a man who has been accustomed to sit up late, night after night, over his books or figures, may find it feasible, although possibly inconvenient, to go to bed early, and do some of the work in the morning; or, instead of stooping over his desk hour after hour, he may use a type-writer, or employ the services of a stenographer. Then, again, a town dweller may find it not altogether impossible to give up his London quarters during the summer, and take a little place down by the river, so as to ensure a breath of fresh air night and morning. Houses in large towns are usually very badly drained,

even if they have any drains at all, and nothing can be more fatal to the maintenance of health than inhabiting the same rooms all the year round. Every man who wants to keep well must have some occupation or amusement apart from his ordinary work. People who lead a sedentary life should make a point of going in for tennis or some equally vigorous game. River or sea bathing is excellent, but it is not likely to do much good unless the bather can swim. Paddling about in the water is useless, what is required being vigorous exercise. As a mode of exercise nothing can be better than the bicycle or tricycle; for when once its use is introduced into a family, debility is a thing of the past.

When the debility is very great, some difficulty may be experienced in getting the patient to do anything, or attempt the slightest exertion. As a preliminary step massage may be useful, but care must be taken that it is well and skilfully done, and that it is not merely a form of medical rubbing. The patient must be encouraged to get out in the fresh air, and the walks or drives should be extended little by little and day by day, until something like a healthy condition is restored. More systematic exercise will come afterwards, and it may be many months before there is anything like real restoration to health. Debility is not actually a disease, but it is the cause of many diseases, and a very long course of treatment is often needed to eradicate it.

Anæmia.—The term anæmia is synonymous with poorness or poverty of blood. It depends upon conditions which have been sufficiently indicated in the article on "Debility." The patient is usually abnormally pale, suffers from shortness of breath on the slightest exertion, and is incapable of any sustained effort. The remedy for this affection is iron. Wyeth's Dialysed Iron is the favourite preparation; it is mild in action, does not constipate, and does not destroy or stain the teeth. A teaspoonful should be taken in a glass of water three times a day, and this treatment should be continued for at least six weeks without intermission. Tabloids of Citrate of Iron and Quinine are also useful, and one should be taken before meals daily for at least a month after the discontinuance of the Dialysed Iron. It is essential that the patient should be well fed, and should have plenty of exercise in the open air.

Bright's Disease.—Bright's disease, named after the eminent physician who in 1837 first described it, and pointed out its significance, is in this country a very prevalent complaint. It is characterised by the presence of albumen in the urine, and is frequently known as *Albuminuria*. Albumen—of which we have a familiar example in the "white" of

eggs—is not a constituent of healthy urine. It begins to pass from the fluid to the solid state at a temperature of 160° Fahr., and its presence in any fluid may be detected by boiling—with certain precautions—or by the addition of strong nitric acid, which coagulates it. These tests, although perfectly simple, should not be attempted by the patient himself, or by any one unacquainted with organic chemistry, for there are many sources of fallacy, and it is easy to arrive at an erroneous conclusion. It is probable that the so-called Bright's disease is not a distinct or definite morbid condition, and that under the term are comprised many different affections of the kidneys, which can be distinguished and differentiated only by a skilled observer experienced in such difficult investigations.

There is undoubtedly a form of the complaint which appears suddenly, and it is called "acute Bright's disease." It is a condition of acute inflammation of the kidneys, attended with well-marked constitutional symptoms. It is common in children, and is often the result of exposure to wet or cold, although more generally it follows an attack of scarlet fever. The onset is sudden, although the nature of the illness may not be suspected for some days. If the legs are noticed to be swollen and puffy, and especially if they pit on pressure, or if the urine is scanty and high-coloured, the matter should be investigated at once, or very serious effects may follow. Dropsy of the feet or ankles, however slight, is a very suspicious sign.

The onset of the more chronic forms of Bright's disease is frequently very insidious. Its existence is often discovered only when distressing shortness of breath or an attack of convulsions leads the patient to consult his medical adviser. When the disease has existed for some time, the complexion assumes a peculiar pasty appearance, the patient complains of indigestion, and there is an increasing disinclination for physical exertion. This condition should always be suspected when such symptoms occur in the case of middle-aged or elderly people who have been accustomed to the habitual use of alcohol in fairly large quantities. Sometimes it is associated with symptoms of stone, or the passing of sand or gravel. After a time nausea and vomiting—especially in the early morning—may make their appearance, and attacks of diarrhoea, alternating with constipation, are not uncommon. Sometimes, too, blood may be passed in large quantities, and yet escape notice or recognition.

The treatment of this condition is most difficult. It is not incurable if treated early, but the patient will probably have to remain under medical supervision for weeks, or even months. The slightest indiscretion or inattention to the prescribed rules

may lead to the onset of bronchitis, pleurisy, or some other serious complication. The life of the sufferer hangs on a thread, and at any moment he may be seized with an attack of uræmic convulsions, which will end his career. The arteries also undergo degeneration, and this predisposes to apoplexy, followed by paralysis, and often loss of speech. Much depends on the early recognition of the disease, and, if taken in time, life may sometimes be saved. Reliance should never be placed on patent medicines and other reputed remedies, but a systematic course of treatment under the guidance of a skilled physician should be insisted on, and adopted without delay.

Diabetes.—There are two forms of diabetes—"Diabetes Mellitus," characterised by the persistent presence of sugar in the urine; and "Diabetes Insipidus," in which there is no sugar in the urine, but the quantity of urinary secretion is greatly in excess of the normal. Both conditions are serious, and call for careful treatment. Diabetes Mellitus is the commoner disease; and if not promptly recognised, usually proves fatal in the course of a couple of years. The patient notices that, without any apparent cause, he is getting weaker and thinner, and has less capacity for work. His appetite may be good, and yet, in spite of this, he wastes away. It may be some time before his attention is called to the condition of the urine; but at last he notices that he is passing it with unaccustomed frequency. It may be a still longer time before he recognises the necessity for consulting a physician; but at last he does so, and an analysis of the urine shows that it is loaded with sugar, which is being passed in very large quantities.

If an appropriate course of treatment is sketched out, and strictly adhered to, there may be an amelioration of the symptoms, and the excretion of sugar may be arrested; but very often the patient fails to recognise the gravity of his condition, and too late pays attention to dietetic or medicinal treatment. The disease progresses slowly but surely, and little by little the lungs become involved, until the patient presents all the symptoms of advanced consumption. Sometimes his end is more rapid, and in the midst of comparative health he becomes comatose, and dies in a few hours of uræmic poisoning.

Diabetes is a disease amenable to treatment; but it is essential that it should be treated *early*. When a person rapidly loses flesh, and cannot account for it on the theory of worry or overwork, he should at once consult a doctor, and should do so at any time, if he has reason for supposing that he is passing an excessive quantity of urine.

In Diabetes Insipidus the necessity for a strict regimen is not so great, but active steps will have to be taken to check the excessive flow, or the kidneys will ultimately suffer, and the patient become the subject of Bright's Disease.

"Diet Tables" have been drawn up for the use of diabetics, but too much reliance must not be placed on them; for, although the general principles of treatment are well recognised, each case must be judged on its own merits. Wholesale treatment is worse than useless, and does far more harm than good. It must be remembered, too, that a single examination of the urine is valueless, except for the purpose of diagnosis, and that a *systematic* examination will have to be made daily for weeks, or even months, to test the progress of the treatment. This can be done nowadays with scientific accuracy; and it is essential, if the patient wishes to get well, that it should be done. It of necessity involves a certain expenditure of time, and is consequently expensive; but it is worth it, for it is the price the unfortunate sufferer pays for the maintenance of strength, and perhaps even of life. The great danger with diabetic patients is that they are apt to listen to every one's advice, instead of placing themselves in the hands of a competent medical adviser in whom they have confidence.

Diabetes is a terrible disease, and kills a great many people every year; but it is quite an open question if the majority of them do not die from following the advice of well-intentioned friends.

Ophthalmia.—By ophthalmia we mean inflammation of the membrane covering the eye and lining the eyelids. It is a serious complaint, and in schools and other places where children are congregated together is apt to assume an epidemic character. Ophthalmia may arise spontaneously, without any apparent cause, but is commonly the result of rapid alternations of temperature and exposure of the eyes to cold and easterly winds. The symptoms are unmistakable. There is usually a feeling of grittiness in the eyes, as if they had been subjected to the action of dust or fine sand. The eyelids become red, and after a short time extremely painful. In the advanced stages the white of the eye may assume a uniformly red colour. There is an increase of secretion both from the eyes and the lids, so that they pour out a quantity of muco-purulent matter, which secretes rapidly and is removed with difficulty. The eyelids are sticky, and in the morning they are gummed together, and are separated with difficulty. Both eyes are usually affected at once, but one eye is commonly in a more advanced stage than the other. The affection is amenable to treatment, but the greatest care will have to be taken to prevent it from attacking

those who are already free from it. The eyes will have to be bathed every three or four hours with a lotion containing six grains of alum to the ounce of water, taking care that it is thoroughly well applied, and that it comes in contact with every part. To prevent the eyelids from becoming agglutinated during sleep, the edges of the lids will have to be anointed with cold cream or lanolin. The bowels should be acted on by some mild aperient, such as a dose of blue-pill or Carlsbad Salts; and the general tone of the system should be improved by the judicious administration of Parrish's Chemical Food, or Fellows' Syrup of the Hypophosphites. In the case of delicate children nothing is better than Kepler Extract of Malt, or Extract of Malt and Codliver Oil. Plenty of fresh air is absolutely necessary, and the sufferer should take as much exercise as possible. The greatest care should be taken to prevent contamination, and the secretions should be wiped away with a piece of soft lint, which must be immediately consigned to the flames. Taking it on the whole, ophthalmia is a serious complaint, and the services of a medical man are indispensable.

Ophthalmia is of especial importance and interest when it breaks out in schools. As Dr. Clement Dukes has pointed out in "An Address on School Hygiene" (Cassell and Co.), "Many of our schools are nearly everything that can be desired in most sanitary respects, while others are as unsuitable as though they had been perversely constructed and arranged by deliberate intention." It is essential that in the class-rooms of every school there should be an abundance of light, not only to ensure health and cleanliness, but also to avoid injury to the eyesight; they should be comfortably warmed and ventilated, and there should be an allowance of not less than 500 cubic feet of space per head. It is a good rule to insist on the room being vacated for a few minutes every hour. As a matter of fact, as Dr. Dukes points out, they are often dark, damp, ill-ventilated dungeons, situated in some cases underground, and as little adapted for their purpose as a baby's cradle for an elephant. Dormitories should be bedrooms and bedrooms only, and not bedrooms and sitting-rooms combined. In these bedrooms, where about nine consecutive hours are passed, each boy should have allotted to him at least 800 cubic feet of space, 72 square feet of floor space, with plenty of floor space between the sides of adjacent beds. All the rooms should be bright and sunny, and the class-rooms should be large, light, and airy. When these precautions are taken, there need be little or no fear of an epidemic of ophthalmia; but when they are systematically neglected, there is no guarantee that the health of the children will be preserved.

Erysipelas.—By erysipelas is meant an acute inflammation of the skin, originating for the most part in the neighbourhood of sores and open wounds. It has a marked tendency to spread, and is always accompanied by high fever. It is usually supposed to be contagious, and is undoubtedly so after surgical operations. There is much difference of opinion as to whether it should be regarded as a specific or purely local disease. In favour of its being specific there is the fact of its being contagious under certain conditions, and also the circumstance that bacteria have been detected in the inflamed tissues. On the other hand, it constantly arises spontaneously from exposure to cold and other non-specific causes, and it is well known that one attack, so far from precluding subsequent attacks, rather predisposes to their occurrence.

The symptoms of erysipelas are mainly those of local inflammation of what is called an inflammatory type. It usually sets in with feverishness, and there may even be a distinct attack of shivering. A blush of inflammation then appears, usually on some part of the face, attended with heat and tingling and tenderness on pressure. Headache and pains in the limbs are not uncommon, the pulse is quick, the tongue is furred, there is loss of appetite, with nausea or even vomiting, and the patient is drowsy and apathetic. This condition persists for six or seven days, when in favourable cases there is an amelioration of the symptoms. Sometimes, however, a typhoid condition ensues, the patient becomes delirious, the delirium finally passing into coma.

Under all circumstances erysipelas is a very serious disease, and the attendance of a doctor is absolutely necessary. There is not much to be done in the way of domestic treatment, but there are a few preliminary steps which may be taken with advantage. In the first place, bearing in mind the possible contagious nature of the malady, it is important that the sufferer should be removed from contact with those who are especially liable to contract it, either from the fact of their having open wounds or sores, or from having previously suffered from an attack of the disease. Those prophylactic measures should be adopted which have been recommended in the case of the various specific fevers, such as scarlet fever and small-pox. The patient should be put to bed in a well-ventilated room with an open fire-place. It is best not to apply anything locally till the doctor comes, but there will be no harm in covering the face with cotton-wool, or with a mask made of lint and having holes cut for the eyes, nose, and mouth. Cold-water dressings are as a rule injurious, and are rarely admissible. It is not a bad plan to get the bowels well open with a dose of some simple aperient, such as a couple of compound colocynth pills. The strength will have to be supported with plenty of nourishment and

milk; eggs, beef tea, arrowroot, sago, and the like should be kept in readiness. The favourite remedy for erysipelas is perchloride of iron, and in suitable cases this is often given in large doses.

It must be remembered that even under the most favourable circumstances the patient's restoration to health will be slow, and that it may be some weeks before he is able to resume work. During convalescence a course of tonics is usually considered necessary, and it is not unlikely that the doctor will order the patient away to the seaside to regain strength.

Trichinosis.—Trichinosis is the "flesh-worm disease," which results from eating infected pork. The worm itself was discovered by Sir James Paget, and some years later Mr. Richard Davy recognised it in the muscles of a man in the dissecting-room of the Westminster Hospital. The worm itself is about a thirty-fifth of an inch in length, and it has been estimated that a man of ordinary bulk may easily harbour twenty millions of them. They will live in the muscular tissue for many years, and they retain life after the death of their host, and even after his tissues have undergone putrefaction and disintegration. They have been discovered in the muscles of many animals, but especially in the flesh of the pig; indeed, it is from eating trichinous pork that infection usually takes place.

The symptoms of the disease, although by no means uniform, are comparatively easily recognised. In the first place, soon after taking the food in which the trichinæ are contained, the patient suffers from nausea and vertigo, which may be succeeded by vomiting and considerable febrile disturbance. Diarrhoea usually sets in, and a few days later the sufferer may be so prostrate that he has to take to his bed. As the trichinæ migrate from the stomach into the muscles, acute pains are experienced in the limbs, which soon become swollen and sensitive to the slightest touch. The patient suffers from intolerable thirst, and the pain and discomfort are so great that he is unable to sleep at night. He may become delirious, and remain in this condition until death puts an end to his sufferings; or, on the other hand, after a prolonged illness he may recover from the effects, and slowly regain health, the worms becoming encysted and quiescent. The recognition of the disease depends on the discovery of the adult trichinæ in the stools, or of specimens taken from the muscles by a little instrument called a harpoon.

It is easy to avoid trichinosis by insisting on the meat being thoroughly cooked. It is generally stated that trichinæ succumb to a moist heat of 170° Fahr., and certainly a few degrees above this would make it quite safe. The disease is common enough in

Germany, but in England it is comparatively rare, from the circumstance that we do not eat meat which is raw or only partly cooked. In the United States it is confined almost exclusively to the German population, who often retain the custom, so common in the Fatherland, of eating smoked sausages.

With regard to treatment, there is little or nothing to be said. The disease is rarely recognised until the worms are migrating in their thousands from the

stomach into the muscles, and then their progress cannot be arrested. Much, however, may be done by supporting the strength of the patient, combating prominent symptoms, and helping him generally through the acute stage. It is hardly necessary to say that the attendance of a doctor is necessary, and that it would be advisable to have the assistance of a physician who has devoted special attention to the study of the disease.

BURNT-WOOD ENGRAVING AND NAIL-WORK.

IN some of our museums and collections of art treasures may frequently be seen ancient coffers, panels, or dower-chests, the ornamentation upon which might well, at first sight, be taken for a rude kind of carving in low relief much blackened by time. It is only after a closer and more careful inspection that the designs are found to have been burnt in upon the surface of the wood, and although this is an extremely rough-and-ready style of decoration, the effect very often exceeds that given by more elaborate workmanship. Thus it will be seen that scorch painting, poker-work, or burnt-wood engraving, is but a revival of an old art, like many other things that are nowadays brought forward as novelties. In its modern form the art has many advantages to recommend it to popular favour: the principal of which being that it is everlasting, and can be inexpensively carried out.

Designs.—Scorch painting requires a very small amount of skill or of artistic taste beyond such as is needed in making selection of a good design, and in rendering that design according to its due proportion of light and shade. Colour has lately been introduced into the work with excellent results, as will be shown hereafter; but generally it is well to choose such a pattern as owes its beauty to its curves and outlines, and is in no way dependent upon colour for effect. There is no scarcity of good designs. An album containing about forty patterns for coloured and self-tinted burning can be had for £1 10s. from Messrs. Dulau, of Soho Square; and many books, such as Hulme's "Principles of Ornamental Art," contain an abundance of suggestions for the work. Some Celtic patterns work out well, and a clever worker may often obtain an idea for her scorching from Eastern trays, from wood carving, and from embossed metal work, old and new. Here and there is an artist who succeeds in rendering faces well in this way upon wood, but no amateur should attempt this unless she is certain that she can achieve so difficult

a task. It is far better that she should practise her skill upon conventional subjects, with which she is sure to obtain a good result, than to fail dismally by producing a piece of work that looks worse and worse, in spite of all the worker may do in trying to improve it. It is exceedingly difficult to correct a faulty outline when it has once been burnt in upon the material used; hence the work must always be set about with care and deliberation.

Materials.—Although poker-work is most frequently executed upon wood, it may quite well be used to ornament articles made of leather, and even of such fabrics as velvet, plush, cloth, felt, or serge; while few of the minor arts can be applied to so many and such different purposes. Almost all the numerous wooden trifles now sold for decoration with painting may be scorched, provided that they are well made and thoroughly seasoned; the work may be also applied to articles of furniture, such as tables, screens, wardrobes, milking-stools, coal-scuttles, and the like, and to panelling for walls. It has likewise been used with striking success for the setting above and round a fireplace, and even for the credos of a church. Of course certain species of wood answer for the application of scorch painting even better than others, but the best are certainly light-tinted oak, maple, sycamore, box, lime, and pear, besides some other less common kinds which are both firm and moderately coarse in texture. Deal may be used, but is not so suitable as those above mentioned, owing to the nature of the grain. The wood, in any case, must be absolutely smooth and well planed. The polishing is done after the burning is finished. The scorching should be executed with the wood resting in a slanting direction or upon an easel, as otherwise the fumes will rise directly in the worker's face, and will not only prevent her from seeing clearly what she is about, but will be injurious to the eyesight. Judson's dyes answer perfectly upon wood when colour is

required, and any good staining will give the needful tones of brown. Sometimes the dyes are useful for mixing with the staining when any particular tint is to be found in neither. Some workers use Aspinall's enamel, but the "surface like porcelain," which is considered so great an advantage for most purposes, is not to be recommended for burnt-wood engraving, one of the beauties of which rests in its roughness and boldness. When colours are used and combined with poker-work, it is possible to produce a very fair imitation of old *marquetric*.

Occasionally a good effect may be obtained by the use of metallic paints; but these require careful application, or the work will have a sort of nondescript appearance, and will resemble neither metal nor wood. Upon leather these metallic colours are, as a rule, more satisfactory than upon wood. The appearance of scorching upon such materials as leather or serge is capable of much improvement by the addition of a little colour, but upon velvet or plush the use of metals cannot be advocated, as the burning itself naturally gives an effect much like tarnished gold embroidery.

Tools.—After the wood, the tools are, of course, the greatest essentials for scorch painting. The pokers can be made by any working ironmonger; they should be some twelve inches in length, exclusive of a wooden handle about five inches long. They should vary from half an inch to an inch and three-quarters in circumference, and the points must be of varying degrees of sharpness—some quite broad for deep and principal outlines, others finer, and a few much finer, for delicate work. Several pokers should be of the same size, so that while one is in use the others may be getting hot. A great deal of very good work has been executed with such homely tools as a small screw-driver, an ice-pick, knitting-needles, and skewers of various kinds, but, if expense is no consideration, the artist should invest in the proper apparatus.

One of the main difficulties with which the amateur working with impromptu tools has to

contend is that of keeping the pencils at one uniform heat, and it is often difficult to have a succession of irons in an ordinary fire or spirit-lamp. The small contrivance which is shown in Fig. 1 entirely removes this difficulty. It is the invention of Dr. Pagulin, of Paris, and consists of a small wooden case, containing, together with pokers of various sizes, a glass bottle half full of pure benzine. Into the mouth of this vessel are attached two india-rubber tubes, one of which, shown in the left hand

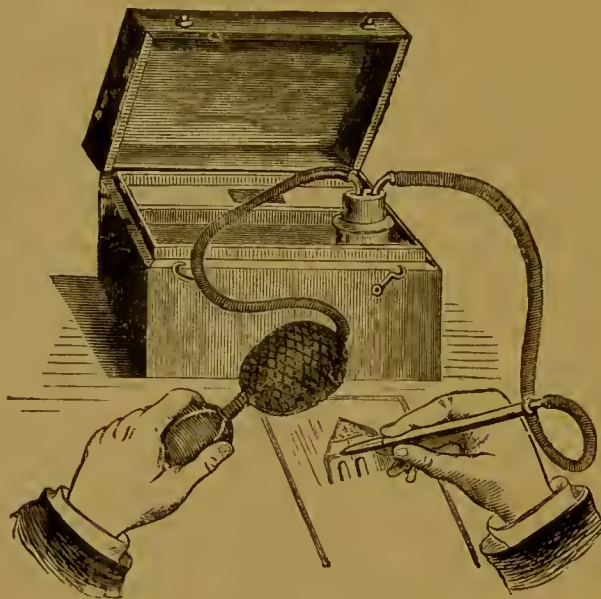


Fig. 1.—APPARATUS FOR BURNT-WOOD ENGRAVING.

of the worker, is provided with a gutta-percha bulb, which, on being squeezed more or less firmly with the hand, directs the vapour from the benzine through the right-hand tube and down to the point of the pencil. At the end of this tube is a perforated metal cap, which is screwed into a wooden handle. The point (*see* Fig. 2), which can be detached from the handle at will, contains a tiny piece of spongy platinum. This, when it has been once heated, has the power of retaining its heat while under the influence of the benzine vapour. The

pencil, when required for use, is heated with a match or over the flame of a spirit-lamp; the left hand works the bellows, and the point soon becomes red-hot, the bellows being worked again as the heat diminishes. The bottle must be kept only half full of benzine, as it is the vapour from this which keeps the pencils hot. This apparatus is arranged to be worked either by hand or foot. The machine operated by hand costs about £1 5s.; by treadle, £1 10s. The former may be had from Mr. W. Barnard, 119, Edgware Road; and the latter from Herr Gustav Fritzsche, Kurze Strasse, Leipzig.

Method of Scorching.—In first welding the poker, it is well to keep an odd piece of wood at hand while the work is in progress, upon which the



Fig. 2.—THE PENCIL-POINTS.

heat of the irons can be tested. The amateur will also find it an advantage to try different touches with the irons upon this, to ascertain which is best suited for the effect she wishes to produce. A small spray, such as the conventional carnation given in Fig. 3, is a good and not too difficult design to begin with. The first thing to be done is to get the pattern marked with sufficient clearness upon the wood to enable the outlines to be followed without difficulty. Carbon paper, or blue transferring linen, is the best material to use for this purpose. The design is distinctly drawn upon a sheet of moderately stout white paper. The carbon paper is laid face downwards upon the wood, and over this is placed the design, the outlines of which are carefully followed with a hard lead pencil, the point of a bone knitting-needle, or of an agate style. Care must be taken that neither the pattern nor the tracing material becomes shifted before the marking is complete.

Black-lead or

charcoal rubbed upon a sheet of paper forms a good substitute for transferring-paper, if this should not be at hand; but any superfluous blackness left on the wood must be dusted off before the seorching is begun.

For small things, such as the carnation spray, a good effect is often given by simply outlining the design, marking in a few strokes as a filling, and burning down the background, so as to leave the pattern upon it in tolerably high relief. The

largest poker must be used for the main lines, as they must be made rather dark in tint. The slight shading required is added with one of the more sharply pointed irons, and the small scrolls are put in with the finest of all. It must be remembered that as no corrections are possible when once the outlines have been burnt in, it is advisable to trace

them lightly first with the hot iron before burning them in as deeply as required. The background must then be proceeded with. The iron for this should be used with a sort of stippling movement, and passed quickly over the surface, so that an equal tone of brown is obtained. No part of the background should be left unburnt, and the seorching must be arranged so that it is darkest just round the design, and shades off gradually lighter towards the edges. The surface—in a large article—should not be smooth, but slightly rough, and not too regular. When all the burning is finished, it is a



Fig. 3.—CONVENTIONAL CARNATION.

good plan to take a sharp penknife, and, as it were, to clear the lines of the design, carefully scraping off irregularities and correcting any slight deviations that may have been made. Should the wood be light in colour, it will probably be found to have become slightly discoloured by the smoke rising from the seorching. With the penknife this dulness of tint may be scraped off, or it may be removed only where the highest lights are needed. Sometimes, when the wood is very white, and the background

is left either unburnt or stained exceedingly dark, it is advisable to leave the light portions of the design of this dusky hue, as it imparts an effect as of old ivory to the surface of the wood.

Burnt-Wood Panels.—In Fig. 4 is given a panel suitable for the decoration of the door of a



Fig. 4.—SMALL PANEL FOR CABINET DOOR.

cabinet or medicine cupboard. In this, the background is managed by stippling, the medium-sized pokers being used. These are held in a less slanting position than would be required for drawing ordinary outlines, and each dot must be made as nearly as possible with the same action of the hand, or the effect will be too irregular. The different degrees of brown required to make this panel effective are shown in the engraving; the black portions of the design are those to be burnt most deeply into the wood; the grey tinted part of the illustration and the fine lines represent the next two degrees of colour, the plain wood being printed simply in white. This panel, and that in Fig. 5, show in miniature the effect given by conventional and realistic designs respectively. The full effect of representations of natural flowers can scarcely be gained if the background is fully scorched, although this is occasionally done. It is, therefore, better to leave it either stained or polished, and to expend as much fine work as possible upon the various portions of the design itself. In the panel given here, the sunflowers are arranged as the lightest parts of the pattern, and as they consequently stand out above the other flowers, they must receive more careful work. The nasturtiums are put in with medium tints, the large leaves forming the deepest tone, and being thus thrown well into the shadow.

In working upon large articles, it is best to choose a dark wood, such as fumigated oak, mahogany, or

chestnut, and to burn down the design, leaving the background to be afterwards polished. If the wood is to be stained, any of the brown stainings sold in tins ready prepared will answer the purpose well. When quite dry, it should be painted over with size or glue, and then varnished. Some of the new clear stains look well on articles ornamented with scorching, as they permit the grain of the wood to be visible underneath them, which gives great richness to a background that is otherwise quite plain.

On such very small articles as jewel-trays, stamp boxes, paperknives, or the rings for table-napkins, the burnt-wood engraving should be so finely executed as to resemble a fine etching rather than anything else, and the coarse bold work must be strictly reserved for such objects as are seen only at considerable distance from the line of sight. For these small things the strokes made by the pencil resemble



Fig. 5.—PANEL DESIGN OF SUNFLOWERS AND NASTURTIIUMS.

almost exactly those that are formed by the pen in pen-and-ink drawing.

Top of Milking-Stool.—The octagonal top for a milking-stool, shown in Fig. 6, exhibits a good design for burnt-wood engraving in which colour is used, and it may be enlarged still more to suit the top of a small table. Pino or sycamore is generally used for these articles, the latter being the pleasanter to work upon. The pattern here shown is, of course, far bolder in its natural size than in the illustration. The best effect is gained by burning in the ground, so that it is quite dark, the outline of the design being merely traced with a fine poker. It will be found that the colour of the work will greatly vary according to the kind of wood used, and often a good result is obtained by using a centre of one kind

of wood bordered with the flat band of another. The centre, or star-shaped design, should be deeply burnt in, as shown by the black lines in Fig. 6. The shield in the middle with the initial must also be rather deeply scorched. To render the ornamentation complete, a fine pattern of leaves and scrolls should be carried down the legs of the stool, and scorched to correspond in tint with the upper portion. All the outlining must be finished before colour is applied. Aspinall's enamel may well be used in such a case as this, and should be made slightly more liquid than as sold. Judson's dyes, too, answer perfectly, but a very small quantity must be applied at a time, and

one colour allowed to get perfectly dry before the next is laid on, or the colours are likely to run to those portions of the wood upon which they are not required. This coloured burnt-wood engraving is often known as "Russian" poker-work, and the principal colours used are red, green, and yellow. In the design now under consideration, the leaf-like pattern which fills the space between the

centre should be tinted red, the fine line in the middle of the knotted pattern yellow, the boundaries of this knotted part and the band running round the edge green.

Salad Spoon and Fork.—This style of scorch painting is well adapted to all small articles, for it requires a considerable amount of delicacy of touch to prevent the colour from straying into the background. The salad spoon and fork in Fig. 7 indicate how very



Fig. 6.—TOP OF MILKING-STOOL IN STAINED SCORCH PAINTING.

tastefully coloured burnt-wood engraving may be applied to them. Here the background (of course of the broad part of the handles only) may be slightly scorched in most places, but more deeply burnt in wherever the black filling is used in the illustration. The white portions of the design represent yellow, the grey parts green, and the white line which runs along the centre of these, red. The effect may be varied by sprinkling gold powder over the paint while still wet; then if the work, when dry, is sized and varnished, the general result will be even more pleasing.

Scorch Painting upon Textiles.—The use of poker-work upon textiles, such as cloth, velvet, plush, or serge, has hitherto been more general in Germany than in England, but the art of thus forming bold designs upon appropriate materials with a very small amount of labour has much to recommend it, and is capable of great development. It is worthy of the attention of those workers who have neither the power nor the time to execute elaborate embroideries; and it will assuredly have the effect of puzzling those friends to whom it is

marked on it—by pouncing if plush or velvet, or by tracing-linen if cloth or serge be employed. It is advisable to burn in all the outlines before putting in any of the fillings or shading. The heat of the pencil should always be tried first upon a loose piece of the material, and this is far more necessary when the proper apparatus is not employed. If the outline is not made dark enough the first time, it is followed by the iron point; it is never improved by having the pencil drawn over it perhaps twice more until it is of the desired shade; while if the poker is too



Fig. 7.—SALAD SPOON AND FORK, ORNAMENTED WITH SCORCH PAINTING.

shown, as at a distance it has much of the appearance that would be given by slightly-tarnished gold needlework. If plush be selected for the burning, it may comfort the worker to know that it is not of the slightest consequence if the pile has been much flattened, and is greatly "crushed" by previous use. Provided that the design be so planned as to cover all the worn portions, the fabric will look quite as well as a new length would do. Needless to say, only the thickest of materials are appropriate to this work, for the thin ones have not substance enough to allow of a portion of it being singed off, and will fall into holes at the first touch of the iron. The material must be stretched either in a large frame, or pegged out upon a large flat table, according to its size and the convenience of the worker. The design selected is then

hot, a slit will be the undesired result, and the work will be spoilt altogether, or will have to be disfigured by an ugly patch on the wrong side. The worker who has gained some experience will soon learn whether the pencils used with the apparatus are at the right degree of heat by the very appearance of the hot portion of the point. When the outlining is all finished, the fillings and the necessary veins and strokes must be put in, the motion made by the hand in guiding the pencil being regulated by the position and shape of the markings required, and the general result to be gained. The colour of the scorching should vary from a pale biscuit-like tint to the darkest sepia. The touch should be firm—in the sense of not being shaky or uncertain; but no force should be used, or the material will soon be burnt into holes. In scorching upon textile fabrics, care

in making the outlines clearly is even more necessary than when the work is executed upon wood, for here the useful penknife cannot be called into requisition for correcting faulty lines.

When finished, as far as the scorching is concerned, the worker must decide whether she will leave her achievements in their simplest form, or will further improve the look of her material by the use of the brush. The ordinary medium and colours employed for tapestry painting can be used, or Judson's dyes; a still better effect is gained by the use of lustra, or other makes of the metallic colours. Of course, any colour that happens to be selected must not be used indiscriminately over the whole of the design, but must be so arranged that the scorching is not entirely covered, or the effect will be lost. The use of metallic paints more especially should result in the enrichment of the sepia-like tints of the burning, and so should be used only for veins, strokes, stems, and similar parts of the designs.

A very practical use to which scorching on textiles may be applied, is that of making a design more distinct after it has been pounced for embroidery. As all workers know, designs cannot be ironed off or marked with tracing-linen upon such materials as plush or velvet, and it is therefore necessary to pounce them. This is done by dusting powdered chalk, or blue, through a number of holes that have previously been pricked in the pattern. The design is then shown upon the material in the form of a series of tiny dots, the sequence of which, especially if the pattern be an intricate one, is extremely difficult to understand. It is customary on this account to connect the dots with a line of Chinese white and a paint-brush; but a fine heated pencil drawn from dot to dot lightly along the velvet answers the same purpose excellently well, and involves less labour than the painting, as the colour is often troublesome to fix upon pile materials.

Scorching upon Leather.—Many of the more recent revivals amongst the minor arts have been exercised upon leather, and this material is now once more modelled to imitate wood carving, or embossed to resemble the ancient *cuir bouilli*. Scorch painting has been applied to leather in much the same way as to wood, and many very quaint and old-world-looking articles may be made when it is thus treated. It is specially suited for book-covers, and some covers for Bradshaw's on view lately at a fine-art exhibition in London

were worthy of use for more interesting volumes. For the backs and seats of chairs the work is quite appropriate, as the ornament will not be damaged in the least degree by the chair being in constant use. For screens, the leather may be much improved by being painted with metallic

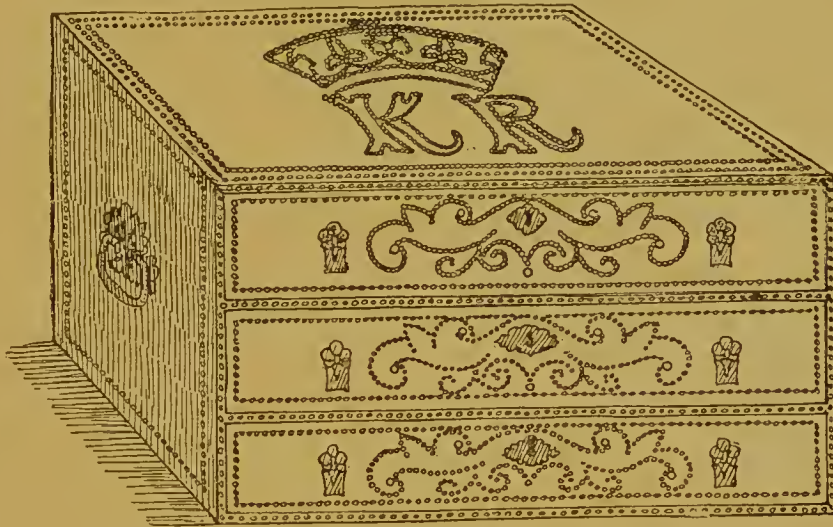


Fig. 8.—QUEEN KATHERINE OF ARAGON'S TRAVELLING-CHEST.

colours, much in the way already described for scorching on textiles.

ORNAMENTAL NAIL-WORK.

One of the very simplest, and at the same time most ancient, styles of ornamentation for chests, cabinets, and travelling-trunks, is that made merely by an effective arrangement of nails with fancy heads, mixed with thin bands of metal, brass, tin, or copper, according to the kinds of nails used. It somewhat resembles the manner in which school-boxes were decorated some few years ago, but is much more elaborate, and can be traced in constant use as far back as the time of the Roman Empire. The travelling-chest belonging to Queen Katherine of Aragon (Fig. 8) is a good example of the simplest form of this decoration, and similar trunks are still existing which are known to have belonged to King Charles I. Provided that a sufficient number of nails be used to prevent the general effect from being "spotly," a very bold and durable ornamentation may be produced at the expense of very little trouble.

Materials.—Whatever be the article chosen for decoration in this way, care must be taken to select something made of tolerably thick wood, or the nails will be driven too far through to the wrong side, and, when shortened, will not keep in place securely. Of course the wood must be thoroughly seasoned, or, as it shrinks, the nails will fall out. A soft kind of wood should be chosen, such as pine, lime, or alder. This may be either stained and varnished, painted with the ever-useful Aspinall, or simply covered with felt, leather, or cloth, according to the size of the article to be ornamented, or the use to which it is to be applied. A very handsome casket may be made by covering the wooden shape of the box with plush or brocade. If brocade be used, such a one should be chosen as has woven in it threads of fine gold or silver tinsel, to correspond with the bands of metal to be used upon it.

The metals required must be in the form of very thin bands of copper, iron, tin, or brass, varying from half an inch to two inches wide. The nails can be had from any good brass-worker or ironmonger, and resemble those that were used a short time ago by upholsterers for fastening on gimp valances to tables, frills to bookcases, and as a finish to chair-coverings, and for other purposes. Some of these nails have pyramidal or plain round heads, others are star or cross-shaped, and some are cut in facets to resemble jewels. It is surprising, after a little search, what a wonderful variety may be found. Some of the suitable nails have plated or nickel heads, and should be used with bands of tin. Others are blue or reddish, and look well on blue or crimson plush. It is always advisable to vary the kinds of nails that are used upon one piece of work, and never to form the design in one sort only.

The work was re-introduced into England from Germany, and boxes of materials may be had from Herr J. A. Pecht, Constance, Grand Duchy of Baden, for twelve shillings, including carriage. Such a case contains the tools requisite for the work, six full-sized designs, and about seventy dozen nails—both of white and yellow metals—with a great many varieties of fancy heads. If the worker is already supplied with tools, she may procure a good assortment of fancy nails from Messrs. Draper & Son, The

Golden Key, 67, Great Titchfield Street, Oxford Street.

The implements required are very simple, and consist merely of a steel piercer, a pair of pliers, gimlet, small hammer, and a pair of scissors, such as those used by iron-workers for cutting thin sheets of metal.

How to Arrange the Nails.—If a casket is to be ornamented, the first thing to do is to decide what portions of the box shall be adorned, whether the top only, or the top and sides also. The latter, of course, gives the handsomest effect. The design

must be geometric in character, as shown in Fig. 9, and must be drawn first upon a piece of paper cut the exact size of those portions of the box to be decorated. Lay a sheet of carbon paper or transfer cloth upon the box, place the design upon it, and follow the outlines with a steel knitting-needle, a slate pencil, or any other sharply-pointed tool that happens to be convenient. If the design is to be arranged with the nails at some distance apart, the pattern must be marked in a series of dots, each one of which serves to show where a nail is to be placed.



FIG. 9.—STAR IN NAIL-WORK.

If this is not done, the black lines will look unsightly between each head of the nail after the work is finished. When the box is covered with plush, velvet, brocade, or some other material upon which it is difficult to make any mark with the transferring paper, it is advisable to pin the design down to it with drawing-pins, and to drive the nails through the paper into the wood. The paper, if a thin make is used, may be easily pulled away from between and amongst the nails before they are finally driven home. Should flat bands of metal be required, great care is necessary to get the lines absolutely straight upon the box; and the places at which they cross over, or are placed under one another, should be indicated by a few strokes with a blue or red pencil, which are made in a vertical or horizontal direction, according to whether that band is to be under or over another. Cut the strips into the lengths required, and with the piercer make a hole near the end, to mark the spot at which the securing nail is to be passed through. The hole in each strip must be made exactly at the same distance from the end.



Fig. 10.

Then lay the strips on the box, and with a pencil make a mark through the holes on the wood below, to indicate where it will be necessary to bore a hole in which to insert the nail. A small hole must be bored with the piercer on this pencil dot, just large enough to allow the nail to be lightly pushed in before it is driven home. The metal bands are laid in place, and are passed alternately over and under at the points where they cross; the nails are then put into the holes bored for them, and must be pushed in with the fingers as far as they will go without the use of the hammer. The next thing to be done is to bore a number of holes to receive the nails all along the lines that are to be covered with them. Whether they are to be put so close together that they touch, or whether they are to be at a slight distance apart, these holes must be made at very regular intervals, and should be accurately measured. A good way of ascertaining at what distance they

should be placed is to drive six or eight of the nails close together into a thick flat pad of flannel with a

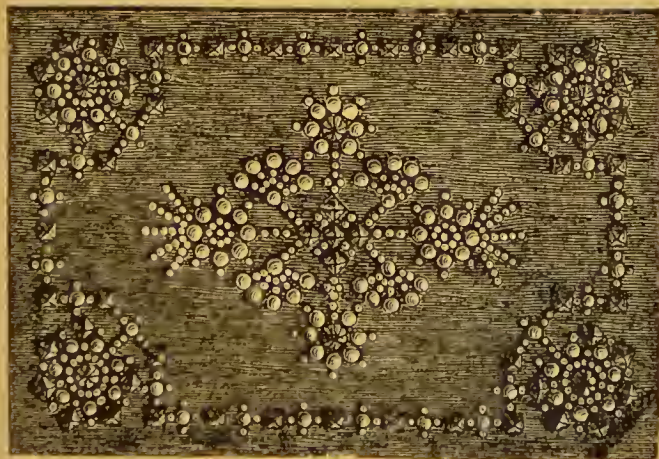


Fig. 11.—TOP OF BOX IN NAIL-WORK.

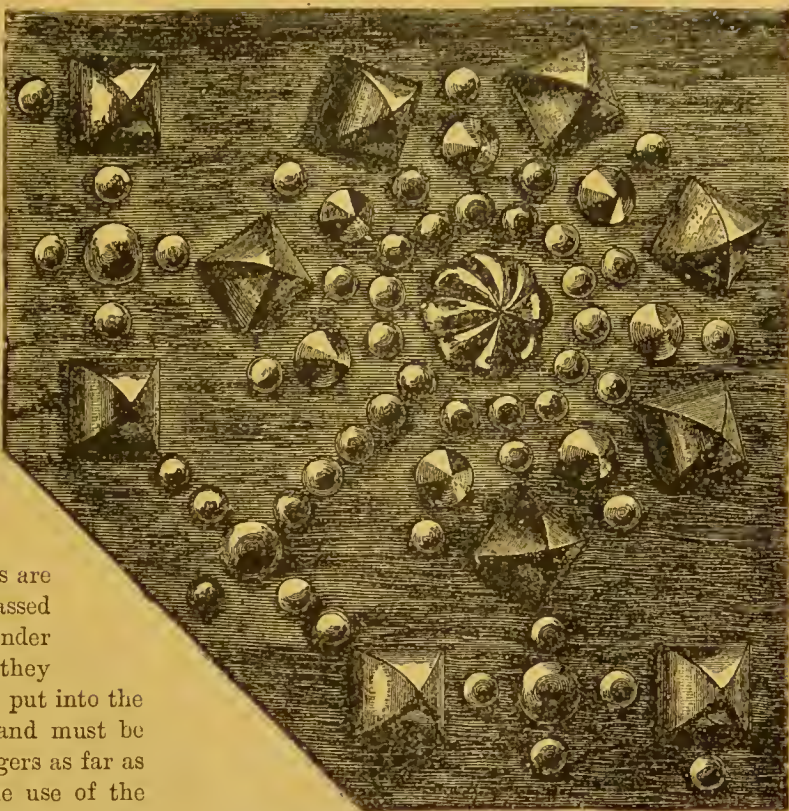


Fig. 12.—DETAIL OF BOX.

piece of paper on the top of it, then to remove them. That portion of the paper into which the nails have been pushed must be cut into a long and narrow strip about half an inch wide, the holes being in the middle, and a straight pencil line made from each hole towards the edge of the paper, as shown in the diagram in Fig. 10. If this impromptu measure be laid so that one edge rests on the line on which the nails are to be placed, a dot may be made on the wood with a pencil to show where each hole for the nails is to be bored. If preferred, the lines from the centre to the edge of the paper may be omitted, and the pencil point simply passed through the holes in the paper to the wood below as the measure rests on the line of the design. The drawback to this plan is that the measure must rest exactly over the design, and so partially hides it, and this, in a curved pattern more especially, is a great disadvantage. The nails must be placed in position with the fingers, as before directed in fixing the metal strips. When they are all put in, the hammer must be called into requisition to drive them home. A flat piece of wood or a thick pad of baize or felt should be laid over them, so that the hammer may not injure them, and they must be driven in



Fig. 13.—END OF BOOK-SLIDE.

with a firm true stroke. When they are all placed, the work is turned wrong side uppermost, and should any of the spikes show through, they are either hammered down flat side-ways on the under surface of the wood, or else are nipped off flush with it by the help of the pliers. The former plan is the best when the nail is sufficiently long to allow of it, as the bend thus made serves to prevent it from falling out.

Box - Top in Nail-Work.—The top of the box shown in Fig. 11 is arranged for nails only, without any metal bands. The nails are of four kinds—round ones of two sizes, fluted

round ones, round ones slightly pointed at the top, and those with square or four-sided heads. A detail of one of the corners in full working size is shown in Fig. 12, and should be quite easy to copy. The pattern would look very well upon a box which is stained to resemble old oak.

Book - Slide.—One of the purposes to which nail - work is most successfully adapted is the ornamentation of the ends of a book-slide, and a pattern suitable for the shape of such an article is given in Fig. 13. The metal bands add greatly to the effect, and most



Fig. 14.—BELLOWS.

of the nails used should be smaller than those suited for larger things, on which bolder patterns can be employed.

Bellows.—These are small articles which lend themselves particularly well to ornamentation with nail-work, and many very ancient bellows are to be seen thus decorated. The brass-work, as will be seen by reference to the illustration (Fig. 14), here takes the form of a narrow flat beading, which is fastened on round the edge of the front, and across the bottom, with tiny brass tacks. Such a beading can be procured from any dealer in brass-work at a small price per foot, and is easily fastened on with nails passed through holes made in the metal by the piercer. Upon such articles as these bellows it is quite possible so to mass the nails that at a distance

the work resembles brass repoussé, but this cannot be managed if the design chosen is very intricate.

For some purposes burnt-wood engraving and nail-work may well be combined. The panel of the lid of a wooden coal-seuttle, for instance, looks well with a centre of scoring, framed, as it were, with a narrow and formal border of nails of two, or at most three, different patterns. The same style of work is suitable also for a small fire-screen, either two- or three-fold, and can be adapted to many of the more fanciful shapes in which these articles are made at the present time. The worker who takes a little trouble in thinking the matter over will soon discover an infinite variety of wooden articles, besides those mentioned here, upon which she can practise her proficiency in these two minor arts, using them either singly or together.

THE ANNUAL HOLIDAY.—I.

THE practice of taking an annual holiday is becoming more and more general in England, and is beginning to be regarded rather as a necessity than as a luxury. Reduced railway fares and cheap excursions have made change of air possible to people with limited incomes and large families; and a sea-side trip or visit to the country has been brought within the reach of many who formerly spent their lives from year's end to year's end in close streets and smoky towns. That this is so, none can regret. In these days of high pressure, life in large towns becomes yearly more wearing and more exhausting; and a change is needed, not only of air, but of occupation and of thought, to restore lost energy, and calm excited and overwrought brains.

Though the holiday has become a possibility, however, it cannot become a reality to many without much forethought and preparation beforehand; and not unfrequently, in making arrangements for a holiday, its real object is entirely forgotten. It is certainly desirable that as much *pleasure* as possible should be obtained during the holiday; but if the pleasure is of such a kind that it causes over-fatigue, injury to health, and weariness of mind and body, the holiday-maker cannot be said to have received benefit from the change, and will probably return to work, not eagerly and energetically, but wearily and reluctantly. Too much sight-seeing, a rush through busy cities and towns, will not prove very beneficial to a man of business whose every-day life is spent in noisy streets, though a certain amount of sight-seeing may brighten and give new vigour to a care-worn house-wife who spends much of her time

confined to the nursery. If, however, a holiday has been well spent, the holiday-maker will return to the duties of every-day life refreshed and invigorated, better in mind and body for the rest and change so well earned and greatly needed.

"Where are you going for your holiday this year?" is a question frequently asked, and not easily answered. In the case of a family there are other points to be considered besides the all-important one of ways and means. If there are small children, distances must be taken into consideration—distance not only from home, but distance from a station, a telegraph office, and a doctor. If the children are of varying ages, their tastes and wishes will be very different, and the question of whether all shall take their holiday together may arise.

Parents and Children.—Over and over again nowadays we hear on all sides that it is most absurd for all the members of the family to try to spend their holiday together. The seaside, the right place for the children, is, we are told, very dull and quite unbearable for the father of the family; though the fact that it is quite as dull for the *mother* of the family is often overlooked. If the sea-air or quiet country place is an absolute necessity for the children and the mother, it should be also the lot of the father; though if it can be managed occasionally for parents and children to take their holiday apart, no doubt both mother and father will be greatly benefited thereby.

In settling the holiday, the children's good is usually the first thought; and none can object to

this. The only thing to be borne in mind, and it often does need to be borne in mind, is that the mother should not always be the one to be sacrificed. She is sometimes more in need of a change than the children; and she cannot get any real rest if her cares and duties are increased, instead of being lightened, by the temporary change of family residence.

The fact is, that all such questions must be answered very much according to circumstances. If the bread-winner of the family be exhausted by hard and monotonous work, recuperation for him will be the most important consideration for the whole family; and it is often so in modern life, while the mother may be in a position of comparative ease and comfort. Some men in such a condition benefit more from the constant change of scene in a tour than from anything else, and very often that may be only attainable alone. Also there is no denying that many men, and that, too, even amongst those called "happily married," undeniably get more good from a sort of bachelor interlude spent with a friend or two in fishing or other country pursuits, or on a tour, than they can find in the society they are used to every day. On the other hand, there are cases by the score in which it is the wife and mother who is tired out and worn down, while the head of the family is hearty enough; and when, in such a case, we see pitiful excuses made for going off to enjoy mere dissipation in a selfish solitude, every one of right feeling knows what to think. The chief thing to bear in mind, after all, is that while children require, as a rule, little beyond change to country air and other surroundings, their elders require quite as much change of thought and occupation as of scene. Fortunately the more change to country or to seaside generally provides this to most toilers in great cities; and that man has lost much and sadly—however he came to lose it—who cannot enjoy a few weeks of mere country or seaside life amongst his own family without any of the kinds of "amusement" so common in towns. There are exceptions, as above allowed, in the case of really hard-worked business and professional men; but, as a rule, the inability to enjoy a quiet, sociable, family country holiday with one's own wife and children, shows something *wrong*, wherever the wrong may be.

One way of giving the mother of the family her much-needed rest is to relieve her of the cares of house-keeping by obtaining board as well as lodging. This can easily be done in the country, and, if the family is not too large, at seaside places also. It will certainly mean much more benefit and enjoyment to the mother at the time, and therefore good to the family in the future.

Sea and Country.—If sea-air is not absolutely necessary for the younger members of the party, a visit to some country place inland may prove more satisfactory than a *fashionable* seaside place. Uncomfortable lodgings in a crowded watering-place usually produce, after the first week, a great longing for "home, sweet home," however humble it may be; but the quiet of a farmhouse is such a complete change and rest from the noise of the town streets, that its delights may charm, even when the first two weeks have passed away. City children will often willingly give up their much-loved bathing, paddling, and digging, if they are allowed to watch, or even assist in, the operations of milking the cow, feeding the chickens, and making the butter. A holiday in the country is not only good for the body of a city child, but good for its mind too. Endless facts in natural history are learned without books, and occupation for every day springs out of surrounding objects without any seeking for it.

If a country place is well chosen, it may provide entertainment for the elders as well as for the youngsters. Beautiful lanes or hilly country may tempt townfolk to marvellous pedestrian feats; and streams for fishing, or moors for shooting, are likely to prove attractive. As a rule, too, farmhouse owners are kinder and more friendly than the busy landlady of the lodging-house, and will be found to treat their visitors more as friends and guests, than customers out of whom as much is to be made as possible.

A country holiday is seldom found to be more expensive than the seaside one. Perhaps more will be spent for the railway fare in the former, but lodging and food will probably both be cheaper than in the latter.

Such a holiday can of course only be recommended for those to whom rest and quiet is the needed change, for whom the band on the pier and the parade have no charm. For those who lead quiet lives in town, the bustle and stir of a fashionable watering-place must necessarily present greater attractions, and the country would to them only seem "dull and slow."

Time.—One difficulty which frequently arises, however, is the question of the time at which a holiday is to be taken. All school holidays do not commence on the same day, and attendance at school has to be so regular that holidays cannot be taken whenever it is convenient. Of late, however, school terms and holidays have been much more uniform; but whilst this has remedied, to some extent, one inconvenience, it has caused another, in so crowding our seaside resorts during the month of August as to make it often very difficult and expensive to secure

lodgings in the one month to which parents of school-children are practically confined.

When the school-days are over, and the young people are busy with other work, and not able to fix the time for their holiday, it is, of course, often impossible for the whole family to go away together. For some this is not altogether a disadvantage. Young men may take a Continental tour, either on foot, or on bicycle or tricycle, or by rail, at a small expense, and with many good results to themselves, which will never be possible to them at a later period of life. Again, there is frequently great difference of taste, and desire for different kinds of pleasure, among the members of the same family. Some delight in walking from morning to night; others cannot enjoy any holiday which has not a sea-bath every morning as part of its programme. If such is the case, it is far better that the holiday should be taken in different places by the various members of the family. When all meet once more, each one has different stories to tell, strange adventures to relate, and marvellous escapes from misadventure to describe; and all this must give great pleasure, and help to add new interest to the Family Life. On the other hand, however, there cannot be the perhaps still greater pleasure of going over the walks and adventures together, of looking back at the escapes, and recalling the thrilling details, as the family sit together around the winter fireside. Experiences which have been shared by the many must be more interesting than those which have only been learned by one or two.

A large party has, of course, many disadvantages as well as advantages. Ten or a dozen people cannot move from one place to another as easily as can two or three. Though the travellers may limit their luggage to a great extent, unless there is some one to look after the party, and undertake a large amount of work in the way of arranging and planning, accommodation may not be easily found in small towns and country villages for a large number. In wet weather, however (and in this country every holiday-maker should be well prepared for more showers than sunshine), in the pouring rain, when staying indoors has to be the order of the day, a large party will not find the time pass nearly so slowly as a small one, and there may be great fun indoors in spite of the dullness without.

The selection of the place which is to be visited during the holiday may form a pleasant topic of conversation for some time previous to the holiday itself. If all are concerned and interested in the subject, many amusing discussions may be held beforehand, and the delights of anticipation may be enjoyed by all. If all are going separate ways, each cannot help being interested and concerned with his or her

own particular way; and little pleasure will be found in arranging the details for other trips.

On the whole, unless tastes are very different, and unless other causes make it impossible, perhaps a family holiday taken together will prove more enjoyable than one in which each member of the family seeks a different place for the enjoyment of change of air, occupation, and thought.

Even when the part of the country at which the holiday is to be taken is fixed, two questions must be settled before there can be any arrangements made for packing and travelling. The first of these is, What is to be done with the town-house during the absence of the family? and the second is that of the lodgings in the country.

The House at Home.—Stories of robberies of shut-up houses are too common to permit of any disregard of the first question. When the servants are thoroughly trustworthy, the matter is easily settled, and the master and mistress can leave the house for a time with easy minds; but otherwise some arrangement must be made. Any idea of leaving one person—servant or caretaker—alone in a house should never be entertained for a single moment. There are, no doubt, people to be found who will agree to such an arrangement, and will say they “do not mind sleeping alone;” but such a thing should never be allowed. Illness might at any time attack a girl or woman left in such a position, and the consequences might be most serious; while no young woman ought to be left alone in a position of danger and temptation.

One servant left in a house can usually find a sister or friend to sleep with and stay with her; and if the servant is trustworthy, such an arrangement will prove very satisfactory. But should there be any question as to the faithfulness and steadiness of the servants, they should be sent for a holiday, and the house must either be locked up and left in the hands of the policeman, or entrusted to caretakers.

If the house cannot be left in the care of servants, trustworthy honest caretakers—a man and his wife—will be best. A policeman and his wife, or the gardener and his wife—any honest people who are well recommended or well known—will be probably only too pleased to undertake the office for proper remuneration.

Certain directions as to what is to be done during the absence of the family should, in any case, be given to servants or caretakers. The house must not be allowed to present a neglected appearance. Curtains should be arranged, and blinds drawn up and down, as though the whole house were occupied. The gas should be lighted at the proper time each evening,

earlier rather than later than usual, and the steps should be regularly swept and cleaned. If the house appears untidy and neglected, dishonest people will soon discover that the mistress is away from home; that she has left no trustworthy person behind her; and that now is the time to rob the house by night or day. Those who wish to avoid mishaps of this kind must arrange before they take their holiday for the care of the house during their enjoyment, or worry and anxiety will spoil their time of rest, and take away half its pleasure.

Lodgings.—When the party is of any size, accommodation at the seaside or in the country must be secured beforehand. If possible, the apartments or lodgings should be taken only after a personal interview with the landlady, and inspection of the rooms to be occupied. If the rooms are recommended by some person who has already had the use of them, so much the better; but this, of course, is not always possible.

Lodgings at the seaside require almost more care in selection than rooms in the country. Children recovering from infectious diseases are usually taken to the seaside, and all mothers are not as careful or as thoughtful *for others* in these matters as they should be. In inspecting rooms, it is not always possible to ask many questions of the landlady; but much more knowledge can be gained from a personal interview than from a written communication.

If lodgings are required in an unknown country district, it is a good plan to write to the postmaster, asking him to supply names of lodging-house keepers. Of course, when this favour is asked, a stamped envelope should be enclosed for reply; and if the place is small, it must not be expected that more than one or two names will be given. If some member of the party is able to visit the place beforehand and seek for lodgings, the result is much more likely to be successful than if the search is left until the whole party have arrived, and they and the luggage are waiting at the station. If the place is not far distant, the money spent in railway fares will not be wasted if comfortable lodgings are provided instead of uncomfortable ones.

All that is needed, when only a few weeks' stay is to be made at a place, is that the rooms should be of a fair size, clean, and airy. If the weather is at all fine, the rooms are put to very little use. The whole time, as far as possible, is spent out of doors, and all that is wanted is somewhere to sleep, and somewhere to eat food. Plain tables and chairs are more useful than elaborately-carved stands for ornaments, which are in great danger of being broken; and windows which open at the top, more necessary than wonderful pictures in highly artistic frames.

Preparation.—When the lodgings are secured, and arrangements made for the care of the house, as the time draws near for departure many small purchases, as well as big ones, have to be made before leaving home. Small details of clothing, such as boot-laces and hair-pins, have to be provided; little necessities to comfort, such as pens, ink and note-paper, drinking-cups, &c., must not be forgotten; and these cannot all be purchased at the last moment. If everything is left until the last day, something is sure to be forgotten, and annoyance and discomfort must follow. It is an excellent plan to make a list of these small things, and add each one as it is thought of. Then, as they are bought, they can be put all together in one place ready to be packed, and struck off the list. A list of things which must be done, visits which must be paid before the holiday-time commences, will also be a great assistance. It is very disagreeable to have a great rush of work of any kind during the last few days, and to finally leave home with the feeling of many small duties left undone. The lists can be written very neatly on small pieces of paper, and if kept in the purse will be always at hand when needed.

Although all the things that are to be taken away can be collected in one place gradually, the actual packing should not be done until the last moment. If things are packed beforehand, they are sure to be needed greatly for some especial purpose; and the more they are needed, the lower down in the box are they likely to be packed. The actual packing ought not to begin until everything has been collected. Every article which is to be taken away must be in thorough repair, and should be neatly folded; then trouble is saved, as well as annoyance.

Another advantage of collecting all articles in one place before the packing begins, is that it is the only way to prevent anything being forgotten. If the different articles are put straight into the box, by the time it is half full the contents of the bottom layer are out of sight, and, in all probability, out of mind too; and the whole has to be unpacked to make sure that some particular article has not been omitted.

It is a good plan, also, to put aside all articles which will be needed on the journey by any member of the party. These will not be summed up by any means under the head of wearing apparel; for if the journey is of any length, many small comforts, such as the eau-de-Cologne bottle and the book to read, must not be forgotten.

Packing.—When every article is laid ready, and not before, then the actual packing may begin, and the various garments, &c., may be laid in the boxes. Of late years great changes have taken

place in the shape and form of the trunks that are used in travelling. Huge trunks which were too heavy to be lifted by one person, and could only be carried by two men, which were only a drawback and annoyance to their owners and the world generally, have happily gone out of fashion. Light small boxes are now the order of the day; and greatly are they appreciated on all sides. Two of these are much more portable, and therefore more useful, than one heavy one.

The *kind* of box in which the articles are packed must, to a great extent, depend upon the nature of the journey to be taken. If the traveller intends moving from place to place, the box must be small and the luggage limited, and arrangements must be made so that as little luggage as possible has to be put into the van. If, on the other hand, a large party are going for a prolonged visit to one place, larger boxes and more luggage can be taken. In packing for a family, it is very desirable that only one person should do the actual packing of the things into the boxes; then, when the journey's end is reached, some one will have an idea as to the contents of each box, and much time in searching for articles may be saved. An exception to this rule may of course be made so far as separate boxes may be appropriated solely to one or more members of the family, who propose to share the same room. In that case such will pack their own boxes, and know the contents; and this is not a bad plan of packing amongst a party of grown-up people only, but does not answer with a young family.

The great rule which should never be forgotten in packing a trunk is that all the goods must be placed *in even layers*—that is, each layer should be *level* before the next one is begun. All corners and hollow spaces must be filled up, to prevent the articles moving as the box is carried from one place to another. All articles which will not be spoiled if they are pressed should be placed at the bottom of the box with the heavy things. Underlinen is heavy; but as it does not matter if it is very tightly pressed, or even crushed, it can very well be packed near the bottom of the box. Any books which are to be taken should be put at the bottom also; but, if there are many, they should be distributed among all the boxes rather than packed only in one. Books are extremely heavy, and no large quantity of light literature should be taken, without some thought and consideration as to whether it is really needed. Circulating libraries at the seaside generally provide all that is necessary of that kind of thing. Some books may be packed in the “hold-all,” if it is not required to be opened on the journey. Other uncrushable articles may also be disposed of in this way; and the “hold-all” may either be purchased

or made at home. If this useful article is to be home-made, a large square of American cloth bound with braid and provided with pockets and strings will answer the purpose admirably. Articles which will be needed on arrival, such as brush and comb and sponges, may all be packed in the “hold-all,” and are more handy and get-at-able there than in the box.

If there is no hand-bag or “hold-all,” the necessities likely to be required on arrival must be packed somewhere near the top of the trunk. A nightgown is one of the things likely to be needed, but if the one in use is packed at the very bottom of the box, the traveller who has arrived at his destination at a late hour, weary and tired, will not at all appreciate the unpacking he will have to go through to reach it. In travelling from one place to another, one side of a portmanteau can be reserved for the articles which are in constant everyday use; whilst in the other the extra linen, extra pair of boots, &c., can be stowed away to remain undisturbed until wanted.

It is in packing as in everything else, however; certain rules may be laid down, but they must not be blindly followed, because circumstances may be such as to entirely alter one set of rules and make others desirable.

Sponges and washing materials should be carried in a bag. Small mackintosh bags are sold which answer the purpose very well; or, again, one may be made at home of American cloth. Boots and shoes should also be provided with bags. The German ladies have a practice which the English would do well to imitate. They always provide themselves with bags for their boots when travelling. These bags are usually made of brown holland, and the edges are trimmed with bright-coloured braid. Very often the front of the bag is decorated either with a small boot worked in outline, or with the monogram of the owner. The bag should fasten with a flap and button and buttonhole, and should only be just large enough for the boots to slip into. A bag of this kind takes up less room than newspaper, and is always ready to hand, as it can be used again and again, and washed when dirty. Very often it happens that a pair of boots which have been soiled have to be packed without being cleaned, and, if such is the case, a boot-bag is extremely useful.

Nowadays, when frilling is not much worn, the difficulty of packing it so that it arrives at its journey's end wearable, rarely arises; but as it is quite likely that at some future time it will be as much in favour as ever, it may be well to say that it can be packed with very great success in the crown of a hat or bonnet.

If soap has to be taken on the journey (and it is most advisable to take it if the traveller intends visiting the Continent), a sixpenny tin soap-box should be purchased, and the soap will be carried without inconvenience. Bottles containing liquids must be very carefully packed among soft articles, where they will receive little pressure, and so will be in no danger of breaking.

Ink may be carried in a tightly-corked medicine bottle, unless an ink-bottle with double covers and springs, which shuts down very tightly, is purchased. At a seaside place ink may always be easily bought; but in a country village, or in travelling from place to place, a private ink-bottle is sure to prove a great convenience.

It may seem rather out of place to some people in writing about a holiday to mention medicine bottles. Every one expects to gain strength, and be perfectly well by the sea or in the fresh air; but a few simple remedies should be taken, especially if the holiday resort is a quiet little village far away from a good doctor. Brandy—that is, good brandy—is not always obtainable at country inns; and though every one hopes they may never need it, perhaps it is wiser to be provided with a small quantity in case of emergency. Court plaster and vaseline are almost certain to prove useful. Those who suffer from sun-burn may be glad of the latter; though in this, as in other cases, prevention is better than cure, and a large shady hat may obviate any necessity for vaseline. A little healing-ointment may also be packed in the box with great advantage. No one would advocate the carrying about of a complete medicine chest; and if there is a certainty of good shops being within reach, even the simple remedies may be left behind. It is only the wanderer from the beaten track who is advised to carry one or two medicine bottles with him in case of need.

Wherever the traveller is going, especially if that traveller is a lady, a box of matches in a tin case is sure to prove useful. Gentlemen as a rule have matches, but ladies rarely carry them; and even in hotels the matchbox may be forgotten by a careless chambermaid, and the traveller left in a strange place in the darkness.

If the holiday is to be of any length, a work-basket filled with cottons, darning-cottons, &c., will be needed. But if space is precious, useful American cloth may be once more called into use, and a very small "hold-all" may be made to hold the sewing necessities. Fitted with one pocket for cottons, a piece of flannel for needles, and loops for scissors and thimble, it will occupy very little room, and yet will supply all that is needed. A small clothes-brush also should be taken; and it, too, may be supplied with a bag, in German fashion, with great advantage.

Almost every one acknowledges that the most difficult articles of all to pack are dresses, and they, of course, must be put at the top of the box, so as to have as little pressure as possible. The difficulty may be lessened to a great extent, if dresses which are to be worn on a journey are made plainly, without steels; but this cannot always be arranged. The dresses should be folded right side out, and any tapes at the back should be untied. The waists must also be folded right side out, and the sleeves should be laid quite flat and straight. As a rule, trunks are provided with trays, and collars and cuffs can be packed in the tray. If bonnets cannot be allowed a separate box, they also must be placed in the tray. When everything is in the box, it should be fastened securely, and safely locked. A trunk is usually furnished with straps, but a box often requires cording. If a cover is made for a box, it preserves it to a certain extent, though it does not improve its appearance on the journey.

Luggage.—All luggage should have a written label on, with the owner's name, and the name of the place to which he is bound, written on it clearly and distinctly. Bags which are to be taken in the railway carriage, and bundles of wraps, should also be supplied with labels. Should anything be left behind at a station or in a train, if a label is on it, and it falls into the hands of honest people, it may be returned; but if there is no address on it, this becomes almost impossible.

When there is any large quantity of luggage—and it is, of course, needless to remark that the fewer packages there are the better—but when there are a number of boxes, it is well to make some distinctive mark on all the labels, or on the boxes themselves. It is by no means a bad plan to adopt a kind of family badge for the boxes. A star painted in white or red; a large dot of colour, with, perhaps, the first letter of the surname above it; any symbol of this kind placed on one end of the trunks will very often cause speedy identification, and save loss of time. A porter is more likely to remember such a symbol than a surname; and, after all, trunks and boxes are so much alike that mistakes are easily made, even by the owners; yet mistakes lead to tiresome delay. The more simple the symbol is, the better; and if it can be described by a word easily translated into other languages, it will be more convenient.

If there is no distinctive mark on the box, there certainly should be one on the labels; and this may be done even when members of different families are travelling together. A triangle painted in some bright colour is sufficient for a purpose of this kind, and it is possible to buy labels with marks printed on them.

One of the things which might be put upon the list of "Things to be attended to," already mentioned, is the straps of the boxes and trunks. It is very annoying if, at the last moment, a strap breaks, a key will not turn in the lock, or the cord for the box is lost. Such accidents can be prevented by a little forethought and care, and will save worry and bustle at the last moment.

One great advantage of stopping at the seaside, is that to do so solves that most difficult problem to the English traveller—the "morning bath." When the holiday is taken in the country, however, if there is not to be any moving from place to place, baths which are provided with fitted covers and straps (*see* Vol. II., p. 303) may be used to hold articles instead of a trunk. Covers can be made also by any skilful carpenter to fit an ordinary bath, and thus expense may be avoided. A covered bath is not useful, however, when the travellers are sleeping at a different place each night. It is not only cumbersome, but every article has to be unpacked and repacked on each occasion.

When a baby forms one of the party, the question of providing a perambulator and cot has to be taken into serious consideration. Nothing spoils a good carriage so much as travelling; and unless such a thing is quite impossible, it is better to hire one than to take one with the luggage. At most places nowadays perambulators can be hired without any trouble; and only one word of warning is necessary—let the hired perambulator be a new one. It is far better to pay more, or to do without a perambulator, than to run any risk of infection; and if a perambulator which has been largely used is hired, none can say in what state of health the last occupant may have been. If it is considered necessary to take a cot, the wooden ones, which fold flat and are very light, are the least trouble.

Whether baby forms one of the party or not, a most useful article is a small stove. One of the ordinary little stoves which burn paraffin, and are each provided with a kettle, is all that is needed. It will come as a boon and a blessing to all members of the community. If a small packet of tea is put up also, think of the delight of a weary traveller at the sight of a refreshing cup of tea. On the Continent a stove of this kind, tea-kettle, and old cup, are almost necessities; and even in English travelling they are most acceptable. Extra trouble need not be given to the landlady, and yet the tea may be supplied early in the morning or in the middle of the afternoon. When a kettle is at hand, also, hot water can be obtained in a few minutes when wanted.

Besides the boxes and trunks which are stowed away in the van, some luggage must be taken in the carriage, as, if the journey is of any length, certain

things are needful for it. A book to read, a soft hat—either a tam-o'-shanter for a lady, or a cap for a gentleman—a warm shawl, eau-de-Cologne, a pocket-comb, an extra pocket-handkerchief, a damp sponge in a waterproof bag, and a small towel, are comforts which are easily carried, and which considerably help to lessen the fatigue and weariness of a long railway journey. If a pair of slippers can be also put in the bag, and worn on the journey, it is wonderful how much less tired the feet will be at the end of the day. When it is only a case of stepping from the house to the cab, and the cab to the train, loose, comfortable, and rather thin shoes may be worn to the journey's end; but when there is any walking to be done, to wear slippers is, of course, quite out of the question.

If travelling has to be done at night—and many people who are able to sleep in the train greatly prefer it—there are many little arrangements which may be made for comfort. An air-pillow, which can be carried flat so easily, and only filled when wanted, makes a comfortable resting-place for the head. But if this is not liked, a good substitute may be found in a pillow-case filled with soft shawls. Extra wraps and rugs are always needed for a night-journey, as even in warm weather the night-air seems chilly. For those who cannot sleep, a candlestick provided with an india-rubber ring, which will make it stick on to anything, even a window, is a great assistance if reading is to pass away the time.

A sea-journey requires especial packing, and rather different preparation from a railway-journey pure and simple. Only a certain amount of luggage is allowed in the cabin; the rest is packed away in the hold, and cannot be used during the voyage. Trunks with flat tops are now sold, which are just the right size for putting away under the berth. Wall-pockets, which can be fastened up in the cabin, and which are made with receptacles for brushes, combs, and other articles in every-day use, will also add greatly to the comfort of the traveller.

The Journey.—If the railway journey is to be a long one, arrangements have to be made for taking food some time during the day. By some of the express trains time is allowed at one station for dinner; and when this is not done, luncheon-baskets may be ordered at most of the large stations. Luncheon-baskets are, however, quite out of the question for a party of any size. Unless each person has a basket to him or herself, hunger is not satisfied; and six or seven baskets would mean great expense.

The eatables, then, must be provided before the journey is commenced, and eaten in the train. They should be made to look as inviting and tempting as possible, and this can easily be managed with a little trouble. Food which can be eaten without

utensils is the most useful. Meat pies, sausage rolls, hard-boiled eggs, or sandwiches, with slices of cake, covered fruit tarts, jam sandwiches, and a little fruit; any of these will help to make a pleasant meal. But they must be carefully packed, and made so that they can be daintily eaten. The salt for the hard-boiled eggs must not be forgotten, and the sandwiches must not resemble those to be bought at a cook-shop or waiting-room. The meat must be cut in pieces, and mustard and salt, and perhaps a little sliced pickle or tomato, added to season it. If the eatables are packed in a clean napkin, they will look still more appetising; and if all can be placed in a light flat bag, which can be rolled up when done with, and stowed away, there will be one parcel the less to be looked after.

Fruit will help to supply the want of a liquid, though it is quite possible to pack a bottle containing something to drink with the sandwiches, &c. Good home-made raspberry vinegar, lemonade, cold tea, milk, or plain water, are all recommended by different authorities. For children, milk is perhaps most satisfactory; but it should be milk brought from home, not bought at a railway station. One of the glasses provided with a cane case, a strong mug, or a drinking-horn, should be packed in the bag also, for drinking.

If children are of the party, they should not be allowed to eat during the day merely for the sake of passing away the time; a good meal should be enjoyed by all, and then the food, and all signs of it, such as crumbs, peel, and scraps, should be cleared away.

For a small party sandwiches are often found to be more satisfactory than anything. Luncheon-baskets must involve a certain amount of worry, a danger of losing a train, a hurried visit to the refreshment-room. Very often, too, at luncheon-time the train does not stop, and it is a case of getting food very early or very late.

A travelling-dress is looked upon as far more important than it used to be. Happily, the days when a lady considered it necessary to put on her oldest garments to travel in are rapidly passing away. English people abroad are no longer made conspicuous by their wonderful attire. The two things most essential for a travelling-dress are neatness and plainness. No jewellery of any kind should be worn, except perhaps the neat brooch at the neck. The dress should be of a colour which is not affected by dust. For this reason black should be avoided; and if it must be worn, it should be protected by a dust-cloak.

On a long journey a dust-cloak is a great convenience; it covers the dress, and keeps the wearer so tidy that at the end of the day she looks almost as

fresh as at the beginning of it. If there is no dust-cloak, a soft brown or grey dress will least be affected by the dust; and this dress must be made of some material which will stand rain.

An under-pocket is for a lady travelling alone, or with another lady, almost a necessity. In it she may keep money for future use. It is not likely to be picked if it is out of the way; and whether at home or abroad, money should never be carried in a hand-bag. If any jewellery is taken to be worn in the evening, it is best carried in a small wash-leather bag, which can be put under the pillow at night; but much the easier plan is to leave it behind at home—it is safer, and more in its proper place.

If the party travelling is of any size, very much trouble can be saved if all the tickets are purchased the day beforehand, and given into the charge of one person; then they will be taken care of, and put into some safe place, from which they can be easily brought out for inspection. If each person takes his or her own ticket, it must be put away carefully. Railway officials are never pleased to be kept waiting whilst an unhappy passenger searches first in one pocket and then in another, announces that the ticket is lost, and then, just as the train is moving off, produces it from his hat-band. The fashion of wearing outside pockets in ladies' jackets has greatly simplified the ticket question for them. If there is no pocket, it is very easy to have a small one put in a convenient place, where it can be used on ordinary occasions for the pence for a tramway or omnibus fare, and, in all travelling, for the railway ticket. But it must be in a very convenient place, for on a journey a ticket is usually examined more than once or twice.

Another way of saving trouble and confusion with a large party is to write the day before the journey to the railway officials and ask them to reserve a carriage. All crush is avoided in this way; and nothing can be more tiring than a crowded carriage. The number of people travelling together for whom a carriage may be reserved, varies according to the class by which they travel; but this can be easily ascertained, and the arrangement is well worth the trouble. Not only do the travellers arrive at their journey's end much fresher and less fatigued, but they are not obliged to be at the station an hour before the train starts to secure comfortable seats. At the same time it is well for every one to arrive at the station in good time. There are always people who drive up to the station in hot haste at the last minute; but they are not people who have done much travelling, otherwise they would have learned that unlabelled luggage is often lost, and to make the sixth on one seat of a carriage, is to be treated with hard looks and frowns by fellow-passengers.

Most of the large railway companies in London have private omnibuses, which are much more convenient and far less expensive than cabs. They may be obtained in the same way as the reserved carriage, by writing to the officials beforehand, and they will be found in every way satisfactory.

Those who rarely travel, or, on the other hand, who frequently travel by themselves, may feel somewhat scornful about making elaborate preparations for a day's journey; but all parents have found that with a large family it means a great deal. A child's sleep is often affected by over-fatigue, and small strains repeated often affect the health and tell upon the strength. As a rule children are very good travellers, if they are cared for and treated

judiciously. But if they are excited, or allowed to make the day one long meal, it is scarcely to be wondered at that they get upset and spend a sleepless night. Some people consider it best for children to travel at night, and there is something to be said for this plan. If children have plenty of room, they can be made very comfortable in the night, and it takes more than the vibration of a railway train to keep a healthy child awake. Of course this only applies to a long journey, such as that from Bristol or London to Scotland. To take a night train for the sake of three or four hours' travelling would be very foolish; but when it comes to eight or nine hours, it may be a different thing, and the night train is always worth considering in such cases.

WINDOWS AND GLAZED WORK.

THE repair most usually called for in a house is assuredly that of a window—either of a broken pane, or of sash-lines, which have the most provoking way of getting wrong at the most awkward times and seasons.

Glass is now so cheap, and easily procured, that in the country a few square feet may be well kept in stock, and with one of the new patent cutters (in which, for a little while at least, a tiny steel wheel does duty which, a few years back, needed an expensive diamond to do) we can cut our stock glass the size to fit where wanted.

Glass.—This is of many qualities and kinds, the cheapest being horticultural glass, running from 1½d. a square foot upwards, according to size, colour, thickness, and clearness. The thickness is designated as 15 oz., 21 oz., 26 oz., 32 oz., &c., according to the weight of a square foot. Thicker sizes are known as ½th, rough plate, &c. &c. Plate-glass exists in many qualities and thicknesses—patent plate being a comparatively cheap kind, not really plate-glass at all in the true sense, nor so optically perfect as the true plate, which after being cast, and rolled on a huge table by an equally huge roller, has its two sides carefully ground and polished to true and parallel planes—a process so costly and tedious that the price of good thick glass is brought up to 3s. 6d. per foot, and much more if the sheets are particularly large.

The lower qualities of ordinary glass are prepared by more or less crude processes of blowing and spinning, and, as an inevitable result, vary a good deal in thickness, even in parts close together. The result is a very great distortion of the objects seen through this glass. Except, therefore, from motives of economy, none but plate or, at least, patent plate-glass, should be permitted in the living-room windows—at all events,

for those panes in the ordinary line of sight.

So many houses now have fancy windows, with the upper sash adorned with tinted or mottled glass, that it will be well to find out where such is to be had, and even stock a little, for, being supposed to be a fancy article (which it is not now), the local glazier will very likely make the mending of a broken fancy pane cost a fancy price.

We do not recommend our readers to try cutting plate-glass with an ordinary cutter, because that cannot be done; a very strong and special (diamond) spark being needed for the operation, as well as some practice. But should a smash ensue which leaves whole a piece of valuable size, make the glazier remove this carefully, cut it square, and leave it behind, which he will not do if you do not insist on it. It may come in for an odd purpose some day, while you will get nothing for it if it goes.

Mending a Window.—The tools required to mend an ordinary broken pane are very few and



Fig. 1.



Fig. 2.

simple. A hammer we have already, and only need add a back-knife (Fig. 1)—a strong blade with a point, and a thick back to hammer on. In many cases the handle is of leather strips riveted to one another round a flat tang. This is to deaden the jar to the hand; but we can grind an old dinner-knife to answer an occasional purpose. The other tool (Fig. 2) is a kind of enlarged oyster-knife (no bad substitute, by the way, on an emergency), and is used to spread and smooth the putty.

Putty can be bought at any oilman's for 1d. per lb., so it will "pay" no one to make it; but, as it is possible we may be ten miles from such a shop, it is desirable to know how to help ourselves. Here is the recipe:—Take a lump of whitening, and cut or bruise it up quite fine, and then gradually add, a little at a time, linseed oil, which must be thoroughly incorporated and mixed by beating it until a stiff dough-like material is obtained. Remember, the more putty is mauled about, the better it becomes; and before using, it should be kneaded with the hand, the warmth of which will render it still more pliable. If it be sticky, add more

whitening; if too stiff, more oil. For outdoor work, it is usual oftentimes to add white-lead to the mixture, to make it more waterproof. It certainly sets harder, but there are such decided disadvantages—from cracking under extremes of heat and cold, and difficulty of removal for future repairs, &c.—that we cannot recommend the mixture. Putty seams, carefully painted, just so that the edge of the paint overlaps onto the edge of the glass, just enough to prevent access of water underneath, will remain soft and flexible for years. When we have an indoor mend to do—say to a cabinet, where white putty would show objectionably—it is permissible to colour it with ochre, or any dry colour suitable, to be rubbed in just as the whitening was, or mixed with the common putty as bought.

We will hope our first essay may be on a small bedroom window. With the thick-backed knife hack out the glass left, and the putty also, well down to, but not into, the wood, getting the whole clear, right into the corners, as well as those parts easy to get at. Now, if the wood is bare, it must be painted—ever so roughly will do—to get the putty

to adhere properly. If possible to let the paint dry—partially, at least—so much the better. Next rub a lump of putty well with the hands until the mass is quite plastic, verging on sticky, and with the other knife plaster the cleared groove liberally with it. The glass, of course, has been previously cut so as to fit *easily* into its place. Now drop the glass in, and press gradually and sympathetically close to its edges, working and rubbing it down so as to bed the glass firmly and perfectly on an elastic seat of putty. Work round from one point to the opposite, both ways, to avoid breakage, which is sure to occur if opposite corners are both pressed down at once while the intermediate bearings are high; and do not give up the good work until your glass is well down into

its seat, and the space at the back fairly filled with the expressed putty. Next plaster the sash above the glass (outside) with a plentiful supply, all round at once, or one side first, as may be most convenient; and then with a good firm pressure, holding the point of the blade obliquely, in such a manner as to squeeze the putty well home as you go, "strike" the proper bevel in a

uniform stroke from one end to the other of that seam. It will require some practice to do this, as a glazier would, in one stroke; but no harm is done if we take two or three, provided in the end we make a neat seam. Be careful not to leave so wide a bevel outside that it will show inside; and, on the other hand, put enough putty to ensure a good seam all round the glass.

If the bedding operation was properly done, as before described, we shall find little difficulty in finishing the inside, where a simple cut should remove the surplus putty, and leave a smooth clean surface. But in old work it is very likely we may find bad places, where ugly gaps and holes show. Putty must be crammed into these, and then stroked off neatly, until the job is sound and workmanlike. Leave it to set for a day or two, and then paint, outside at least, to match the other work. The mess made by the putty, where it laid on the glass, should be removed before it dries and becomes difficult to clean off. A soft cloth, with a little *dry* whiting, will do this, as well as more pretensions substances often used—dry powdered talc, and such like fancies.

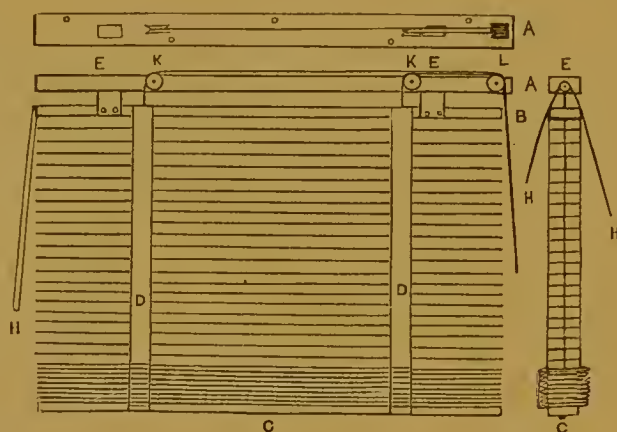


Fig. 3.

Blinds.—The only kind of blind likely to stand in need of amateur repair is the Venetian, which may need a new lath, or new tapes, or new lines or cords. To effect any of these, it is necessary to understand the construction of the blind, which is shown in Fig. 3. A series of thin laths are strung by means of tapes, *DD*, at intervals of about two inches. The bottom lath, *c*, is much thicker and stronger than the others, and the top lath, *B*, the same. The wide tapes run from the top lath, *B*, to the bottom, *c*, on both sides, and hold the thin laths in their places by means of thin tapes sewn to the wide ones alternately on the right and left edges. From one edge of the lath *B*, on the outside of the tapes *DD*, are two wide tapes running up to the top board *A*, and round two wide pulleys, *EE*, in it to the other edge, so making a triangular sling, which suspends the top lath from which the whole set hangs. The board *A* is screwed to the lintel or top of the window-frame. By referring to the end view, the whole plan will be evident by which the laths are turned obliquely, to diminish or increase the admission of light, by pulling the cord *H* on either side.

So far for the adjustment; now we have to show the drawing up. The limit of length to which the blind descends is, of course, the length of the tapes *DD*, but by raising the bottom lath, *c*, by means of cords passing through holes in each lath, behind the tapes *DD*, each successive lath takes up the one above it, until the whole are accumulated in a bundle at the top of the window, all being supported on the thick bottom one, *c*. The cords which accomplish this end pass from the board *c*, to which they are knotted, up through a hole in each lath to the fixed board *A*, over small pulleys, *KK*, in this board, and thence to the end of this board, and down over a pair of pulleys, *L*, to the hand. The two—or, in a wide blind, three or more—cords are here knotted together, to prevent the laths going up one side at a time instead of quite horizontally, as they should do.

This construction of the blind will indicate the steps necessary in case of repair. If a lath be broken, or the blind has to be lengthened by a few more laths, these will, of course, be first prepared and painted of the same patterns and colour as the others. Then it will be evident that the cords must be unknotted at the bottom, and drawn through as far as the place where the new lath or laths are to go, before these can be inserted, as the cords have to be passed or threaded through the holes in the laths. The cords will then be passed back again through the other laths, and knotted as before, taking care they are knotted of the same length, that the blind may hang evenly. If a cord breaks, it is practically necessary to replace both (or

all, if more than two), because, though made specially, new cord *will* stretch a little, and such at one side only would throw the blind out of truth. Cords must be passed from the top down over the pulleys *KK*. When a blind sticks, it is because one or more cords have got off the pulleys, and jambs. This and other accidents are nearly always caused by drawing the blind up or letting it down too rapidly, so that the cords run off the wheels. Pulling at the cords is no use; the only thing to be done is to get up to the top board *A*, and there pull the cord out of the jamb, putting it in the pulley-groove again. Tapes were formerly the most troublesome to repair; and it was almost beyond domestic capacity to sew new ones evenly; but they are now sold with the narrow tapes affixed ready to the broad ones, or woven all in one.

The old-fashioned fastening for Venetian cords was a couple of hooks screwed in the sash a few inches above each other. The top hook was turned up, and the bottom one down, the surplus cord being wound round the pair, and fastened. A much better and simpler fastening now in use resembles a very short broad-headed nail sticking up at an angle from a small plate. A single hitch of the cord on this fastens it by the weight of the blind. This is the best fastening for all blinds which have any weight on the cord.

Venetians are now greatly superseded in the better class of houses by curtains and roller-blinds. Of roller-blinds there are various improved fittings, more or less superior to the old endless-cord winding arrangement; but ladies are very conservative, and servants more so, and slow to comprehend any "new-fangled" notions. Hence such improved fittings, while often approved by the master of a house, are as often condemned and discarded by the mistress. The fixing of any roller-blind will, however, be self-evident, and practically the only tool needed will be the screw-driver. With this, any active man should be able to put up his own blinds, or take them down when necessary for cleaning; their repair, if any, will not fall on his department. All the comfort of using a screw-driver depends upon having a proper length for the screw to be driven (a long driver has much more power over a large or stiff screw), and keeping the edge ground straight, with sharp corners, to grip the very ends of the slot in the screw. A rounded screw-driver loses time and temper, and spoils the screws.

Repairing Sash-Lines.—Next to a broken pane, perhaps the job most often calling for attention about a window is a broken sash-line. Even where a fairly good quality of cord has been originally put in, it is never very long before the variations of

temperature, and continual ups and downs of damp and dryness, will rot one or other of the four cords of a window; and when one goes, it will be best to see if the whole are not pretty much the same, and to make one job of renewing all four. In procuring a fresh supply, bear in mind that ordinary twisted rope will not do for sash-line, being liable to spin round and stretch inconveniently and noisily. The proper sort is woven or plaited, rather than twisted. The material should be good honest hemp. Occasionally in modern houses wire rope is found, and except that it is usually much thinner, and has pulleys and fittings to coincide, the *modus operandi* of repair does not differ materially.

To intelligently understand our task, when warned by the sight of a broken end of rope hanging from a sash, it will be well if we glance somewhat carefully at the construction of a suspended sash window, which is figured in elevation and plan in Fig. 4; and in Fig. 5 one side of this plan is enlarged to show the arrangement of weights, &c., more clearly.

The frame into which the glazed sashes fit is composed of the perpendiculars, or styles, *h i*, the lintel *j*, and sill *k* (Fig. 4), and this frame may be almost considered a part of the framework of the house, as it is fixed firmly in the brickwork, and in many cases has to carry weight. *u* (Fig. 5) is the sash which carries the glass. In the plan a groove, *d*, is shown in the edge of this sash, the object of which is the receipt of the line which runs up to the top of the style and then disappears over a pulley, *r*, into the weight-box, *w*. Now let us suppose the cord supporting *b*, Fig. 5, is broken, and we will proceed to mend it. On the inside of the frame is a beading, *c*, which runs all the way round the window. This must be removed on the side where the break is, by levering it from its fastening with a screw-driver or chisel, great care being observed to prevent damage to the paint. This done, the sash must be first pushed upwards far enough to bring it over the bottom bead, and it will then come bodily out of its place. The broken rope must then be removed from the groove *d*. The sash out of the way, the style *a* will be exposed, and in the lower part a portion of this board, as shown by the dotted lines, is found to be movable. Take out

the piece *a*, when the weight, *w*, can be got at, and the broken line taken from it. Get a small piece of lead, or anything heavy but small, and tie it to the end of a thin piece of twine; then insert this "mouse," as it is called, over the pulley at the top, and let it drop down to the hole *a*, when you fasten to it the new sash-line end, which can then be pulled back over the pulley. The weight, *w*, is threaded by this rope from the top, and a knot tied and pulled well into the place sunk in the weight to receive it, so that there shall be no danger of its getting wedged up in the box. Replace the loose piece *a*, and fasten

it, cutting off the sash-line to the proper length. The proper length will be arrived at by pulling the weight up to the pulley, *r*, and bringing down the end of the cord to the top of the sash, allowing three or four inches for the nailing into the groove, *d*. Of course the weight must not come quite up to the pulley, but just within an inch or so. Secure the cord into the

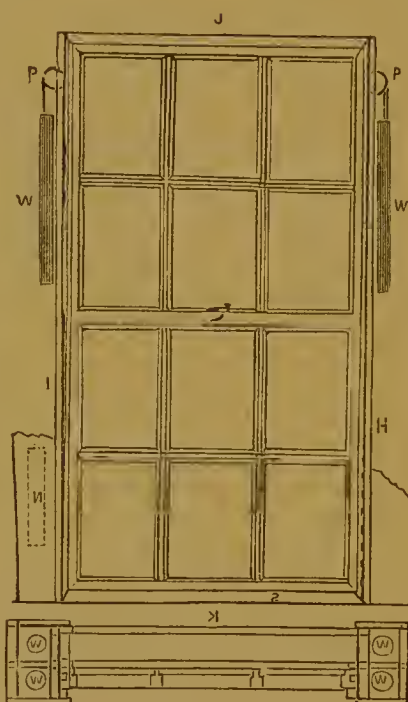


Fig. 4.



Fig. 5.

groove firmly, with two or three elouts or round-headed nails. Replace the sash, and nail on the beading, *c*, and the job is done. Supposing the top sash, which slides down *r*, to be the one requiring repair, it will be necessary to remove the front or lower sash, and then, by taking out the beading *e*, the back sash can be got out also. Otherwise the process is the same as above described. The weights, *w w*, Fig. 4, should exactly counterpoise the sashes; and two are required for each. They are usually made of cast iron, as cheaper; but for situations where space is short, lead weights are used, the specific gravity of lead being so much greater than iron.

In old-fashioned window-frames the entrance to the weight-box is often from the front, as shown by the dotted lines *x*, Fig. 4; but this plan is most objectionable, because the paint-work is so

much more pulled about whenever a breakage occurs in the line.

Loose Sashes.—It is very likely some of the window-sashes rattle on windy nights, and wako up the light sleepers of the household. The best and simplest remedy for this is perhaps a small india-rubber wheel, with a brass centre pierced with a screw-hole. One of these wheels should be screwed to the bead near the top of the sash—inside, in the case of the lower sash; and outside, near the bottom, in the case of the upper.

These wheels must be screwed so as to press moderately into the side of the sash, but must be free to revolve when the windows are opened. They are cheap, costing only a few pence for a whole set, effective, and easily applied. Of window-fastenings the number is legion, and to enumerate the half of them would form a catalogue. In choosing a new catch, see that it is provided with a device for preventing the insertion of a thin knife-blade between the cracks, by means of which the catch can be forced back and the window opened without much noise or trouble. Very few so-called burglar-proof fastenings are of any service to resist a burglar intent on effecting an entrance. The most that can be done is to make his task difficult and, if possible, noisy.

A Home-Made Cucumber Frame.—It will not be a bad plan, now we have arrived some little way towards proficiency in handling our simpler tools, if we try our hand at a cucumber frame, which we can do quite easily by attending to the following instructions; and, no doubt, the amateur gardeners who read these pages, if not themselves impelled to take up chisel, plane, and hammer, will at least be glad of the benefit of the assistance of the mechanical man in the family to obtain a few handy frames in which to strike cuttings, force on seedlings, and store the hardier bedding-plants safe from winter's cold, even if they do not soar to the higher flights of cucumber or melon growing.

Frames may be double or single light, and any size suitable to individual demands; if a number are contemplated, it is well to have them all the same, so that lights may be interchangeable at will or convenience.

For the sake of argument, suppose we adopt four feet wide by six feet long for our lights, and that will be found about the best average size—not too large to handle, and large enough to hold a fair batch of plants. The lights requiring more work, we will commence with them.



Fig. 6.

Procure some good sound yellow deal, nine inches wide and two inches thick, ripping it down into three-inch by two-inch strips, and cutting up into lengths of six feet two inches for the sides, and four feet one inch for the top rail. The bottom rail is to be three inches by one and a half inch only, so as to allow the rain to run off. Plane all these pieces true and smooth, and on one edge of the two-inch pieces only, plane out a groove or rebate three-eighths of an inch in width and half-inch in depth. (Fig. 6.) The lower rail will not require any groove. Now mark the length six feet on the long rails, and four feet on the short ones, carefully marking the width of the planed, and therefore reduced, logs, which are to cross each other, inside of the lines so marked. Continue these last marks round each log with the square. Set the mortise-gauge to the inch mortise-chisel, and fix its points so as to mark a double line that width truly

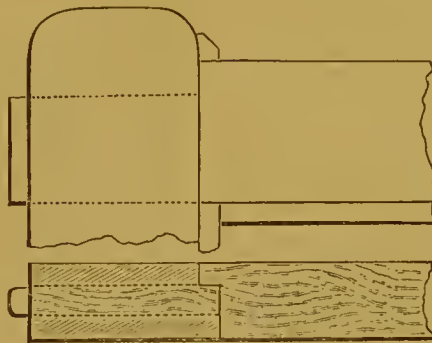


Fig. 7.

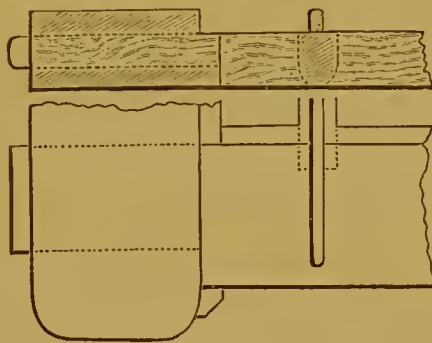


Fig. 8.

central on the edges of the rails, which will, on the rebated side, bring one mark just level with the lower edge of the rebate. Mark with the gauge so set the whole of the rails, at those parts which are to represent the mortise-hole on the one and the tenon to fit it on the other, always using the gauge from the bottom edge of the rails. The wood having been purposely cut a little longer than the light is to be, we have a small surplus piece to deal with when the job is put together; therefore be careful to centre the lengths so that the surplus may be equally available at both ends. On the side rails these extras will be neatly rounded off, and in the tenon ends sawn and planed off flush. The top side of the top rail will also have to be sawn a little longer than the bottom side to fill the place at the side rails which has been rebated out; therefore take care of this. To prevent

mistakes about this, see Fig. 7, which gives a plan and section of the top joint, the section showing the overhanging part of the top rail, made by leaving one side longer than the other at the base of the tenon. Fig. 8, on the other hand, shows how the tenon comes flush with the top side of the thinner bottom rail. Note also that the tenon is reduced in width on the side nearest the ends of the frame, so as to leave enough wood beyond the mortise to give strength to the joint.

For the mortising itself, it will not be necessary to give further directions than will be found in the chapter on "Elementary Carpentry."

The outer framing of our light is now complete; the sash-bars only having to be put in, when this portion is finished altogether, ready to wedge up or peg when these are placed. Sash-bar can be purchased from the timber yard, made in a moulding machine, with an ornamental section; but if such is



Fig. 9.

not to be had, it is only necessary to saw strips two inches (for depth of sash) and one and a quarter inch thick, long enough to bridge the space between top and bottom rails, plus a mortise of one inch at top, and a lap of two inches over bottom rail. The same rebate or groove we cut out of the rail edges must be cut on these strips; but on *both* top edges, because the sash-bars support glass on both sides. Again a diagram (Fig. 9) will make clear how the sash-bars are inserted in top and bottom rails; the mortise *m* being inserted in the top, and the sash fastened with nails *a a* on the bottom rail. The sash-bars may be left square, or the edges be chamfered or bevelled off so as to obstruct as little oblique light as possible. To find the correct position for the sash-bars, we must centre one on the light, and then centre another between each of the two spaces so formed. This is not quite the same as dividing the whole distance into four, because the rebates have to be allowed for. Keep the spaces uniform, because it is necessary to have all the panes of one width. A couple of French nails, shown at *a a*, will fix the lower ends down.

Before finally fixing all these pieces together, well smear all the joints with good thick paint, then wedge up true and tightly, prime, and paint two coats white paint. You now have a light which, kept painted up once in one, or at most two years, should last out the term of your natural life. Glaze according to instruction given in early part of this

chapter, only lapping each piece of glass on the one below it.

This is the most difficult job done, but we have still the box to make. For this we will take



Fig. 10.

eighteen inches as the height at back, and nine inches at front, and by sawing a length board diagonally from corner to corner, we shall have the proper connecting links between front and back from one board. (Fig. 10.) On no account have the timber for your frame-box less than one and a half inch thick, as, if you do, it will not keep out the cold.

At the joints of back and sides, groove and tongue the boards together, like the top of the carpenter's bench. The sides should be of such a length that the diagonal slope measures exactly six feet, and the ends just so long that when the sides are nailed on to them, the box so formed is about half an inch wider than the light. Nail all firmly together with strong four-inch cut nails, and for each corner cut a log two inches square, with one corner planed well off. Nail firmly to these also, so that the hold of the sides to the ends does not depend only on nails in the end grain. (Fig. 11.)

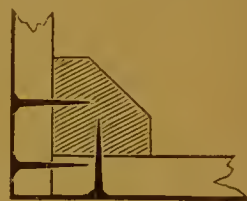


Fig. 11.

A ledge four inches wide must now be nailed on

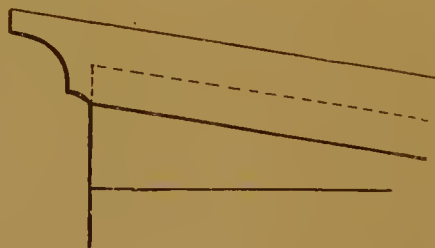


Fig. 12.

each side, with two and a quarter inches of it standing above the same, so as to form a guide or slide to keep the light in position. The extra quarter of an inch is to admit of bars or boards being laid across, to keep down mats in windy weather, without pressing on the glass. Paint these boxes white within, or

if left rough (a very good plan), lime-white them. Paint outside three coats of green or some dark colour, the ledges white. It is a good plan to prolong these ledges or slides four or five inches beyond the frames at each end, and to shape them into handles (Fig. 12), so as to enable two persons to

carry them about easily. Similarly an iron handle should be screwed on to the top or bottom rails of each light, for convenience of sliding them up and down; and it is preferable that these should be on the edge, so as to enable the lights to be packed closely together when out of use.

PREPARING A DINNER FOR A PARTY.

THE first question that arises is, What constitutes a dinner? Speaking on this subject, Sir Henry Thompson observes as follows:—"Certain primary elements are essential to the structure of a dinner; shorn of these, there may without doubt be a meal—and, indeed, not a bad one—of some kind, but there can be no dinner. Thus a man may satisfy his hunger with a large plate of meat, piled with supplementary vegetables, and flanked by the attendant bread, and greatly enjoy his meal, but this is not dinner in any technical sense of the word, and cannot be so regarded; it is simply a plate of meat and vegetables. It offers no change in form, or kind, or flavour, and no slight interval of rest for the palate; it is a single movement, not the symphony—an 'andante' in common time without the bright and sparkling 'minuet' to follow, which in its turn leads to the 'grand finale'; while this in its course may present a plaintive minor passage, which gives force and splendour to the resumption of the major key before the close. Thus it is that certain constituent parts are necessary, one lending force to another by help of relief or contrast; the attainment of perfection through variety being as essential to the idea of a dinner as to that of a complete musical composition. Bearing this law in view, and maintaining the characters demanded, we may produce a dinner of Spartan simplicity, or may swell it to proportions which should satisfy a Lucullus; but the archetype pattern is still to be discernible throughout."

Fortunately for cooks and householders, fashions have changed. Some fifty years ago a good dinner meant an enormous variety. Persons used to delude themselves with the idea that the more dishes there were, the better would be the dinner. At the present time the rule is quite the reverse, the order of the day being little and good.

Dinner Fashions.—In giving a dinner, the point for consideration is whether the dinner is going to be *à la Russe*, or are you going to have the dishes placed on the table? When the dinner *à la Russe* first came into fashion in this country, some forty or fifty years ago, there seemed an universal and very

mistaken impression with regard to it. As with all innovations, the great bulk of English society (that class which indeed may be called the backbone of society, the well-to-do middle class) held out for a long time against it. The general opinion was that it was ostentatious, and there was a vague impression on persons' minds that they would be running into extra expense. After all, the dinner *à la Russe* is simply a fashion, and, like every other fashion when it first comes in, it finds a large number who shrink from it on the ground that they imagine they will attract attention. In matters of dress this is very marked. Imagine two ladies out for a walk in the present day—one dressed in the crinoline of 1850, with a little bonnet on the back of the head, and another in the straight skirt and poked bonnet of our grandmothers. In reality, the dinner *à la Russe* is much prettier and much more economical than the ordinary dinner, where the dishes are placed on the table.

There are so many people at the present day who have stuck to the fashions of their forefathers, that it may be as well if we contrast an old-fashioned dinner with a modern one. The dishes were all placed on the table—soup, fish, and *entrées* all at the same time, the *entrées* being placed in silver dishes; and we presume the sight of the bright silver outside the cover made amends for the fact that you could see these *entrées* getting cold outside the dish, for it was not everybody who possessed those silver dishes that had a spirit-lamp underneath to keep the contents warm. The soup was probably thick mock-turtle. No doubt about its being good in the good old days—the sort of soup that would enable one to adjust one's moustache *à la* Napoleon III. Then the fish—generally a cod's head and shoulders, or half a salmon. The cod-fish was accompanied by oyster sauce, containing three or four dozen real natives; the salmon with lobster sauce, containing a whole lobster, which perhaps cost 2s. 6d.; but in those days, unfortunately, the cook had not grasped the idea of lobster butter. The so-called *entrées* were very heavy, the nearest approach to lightness being lobster patties. One favourite *entrée* in the ancient

days was a beef olive, one of the heaviest things eaten, being composed of beef steak and veal stuffing. Hot pigeon pie, as we have before stated, did duty as an *entrée*. Curried rabbit, in which the rice and curry were all supplied in the same dish, was supposed to be another *entrée*. Other favourite *entrées* were stewed pigeons, veal cutlet, stewed steak, and even jugged hare; but we have called attention to this before. The fundamental point at the dinner was, that if ten persons sat down to dine, the table should groan under a weight of provisions enough for forty. Most boys will recollect how delightful it was to have an early dinner at a house "the day after the battle." The joints meant—if beef, a huge sirloin; if lamb, the fore-quarter; if mutton, nothing under a haunch or saddle. There was one good thing to be said about this old-fashioned dinner: you didn't want a sandwich when you got home, while in the present day you do.

Now for economy, to dinner *à la Russe*. Plenty of flowers, fruit, and ice on the table; and if you can only arrange a dish of ice with a little lamp burning under a glass jar with ferns, this will make a dinner-table look pretty. Now you can calculate so nearly by the way of provisions that you can give a dinner, and have barely enough left for the next day's lunch, because in the present day people don't come twice for the same thing, except turtle at a City dinner; unless you get a farmer, like the historical one, who, after sipping his liqueur glass of Maraschino, seizes the poor menial with powdered hair by the arm, and says, "I say, young man, I should like some of that in a *moog*." One ladleful of clear soup goes round at the rate of one quart for eight persons; one slice of salmon, as helpings now go, is enough for ten. One little patty each, and one over, is safe; one lobster cutlet each, and one over, is enough. A small loin of mutton, as long as the butcher hasn't jointed it, is as good as a saddle. A very small leg of mutton, cut long-ways like a haunch, outside the room becomes a haunch. Then, as a rule, the little bits of game, which are supposed to form one help, will enable you to have two kinds of game for twelve people, with the assistance of one pheasant and three partridges. The wine consists of cheap sherry, claret—(shameful be it to relate!) at 18s. a dozen; the champagne is so frozen that you, fortunately, cannot tell whether it is good or bad; and after dinner one bottle of port takes the place of where, in the "good old times," we had six.

"Look here upon this picture and on this." Wo may well say with the ghost, "O Hamlet! what a falling-off was there!" Still, our little dinner *à la Russe* has its advantages. The dishes can be less in quantity, and we can therefore afford to have them better in quality. And another important point is

that each dish can be served thoroughly hot. One of the greatest drawbacks to a little dinner is serving things half cold. The old-fashioned dinner had one decided absurdity, and that was placing dishes on the table so long before they were uncovered, that you had the very unsatisfactory feeling of knowing they were getting cold. Then these old-fashioned silver dishes had to do a double duty. Directly the covers were taken off, the handles had to be unscrewed, and the cover itself made to perform a second task of becoming a dish. All this caused unnecessary delay—especially, perhaps, where a mould of jelly had to be turned out in the middle of dinner, instead of everything being ready beforehand.

Carving and Attendants.—One of the difficulties in connection with a dinner *à la Russe* is that you require a really experienced waiter, or several waiters, one of whom at least understands the art of carving. When the dishes were carved on the table, the host generally had an eye to who he was helping; besides which, carving requires a certain amount of education. When this important duty is left to servants, they are apt to make mistakes. It wants common sense; and where the carver is not experienced on these occasions, well-laid-down instructions should be given beforehand. Probably most housekeepers will find that this point constitutes their greatest difficulty. In the majority of cases an elderly and experienced nurse will be found to be far superior to a young footman. In fact, what is required is knowledge of the customs of society. In serving helps, much depends upon the number of dishes supplied altogether. It is obvious that where the dinner consists of soup, fish, four *entrées*, two joints, two kinds of game, four sweets, &c., the "helps" would be very different to those served were the dinner to consist only of soup, fish, joint, and pudding.

Simplicity and the Season.—In the present day the fashion tends towards moderation, and even in a City feast the old "profusion" has given way, not exactly to little and good, but to less *quantity*, better *quality*. Too often it will be found, however, that "self-made men" still mistake ostentation for hospitality. A very good instance in point is the famous dinner given by the Count of Monte Cristo, who astonished his guests by producing at the same meal two kinds of fish—one, sterlet (which is only to be caught in the River Volga), and lampreys of a size which showed that they were caught in the Lake Pusaro. This form of vulgar ostentation is shown where the chief desire in a dinner seems to be to have everything that is "out of season," the motive being that the

host wishes to display his own wealth rather than to gratify his guests' palate. We have no hesitation in saying that every article of food *is to be had in the greatest perfection when it is cheapest*. Take, for instance, salmon; or what forced hot-house strawberry can compete with a fresh-picked red-ripe strawberry with a pineapple flavour, which has been grown in the open under a July sun? In olden times the Romans used to send ships to England for the sake of the lobsters caught in a little place now known as St. Margaret's Bay, which is the nearest point of the English coast to France. These lobsters were kept alive during the voyage with wet seaweed and sea-water. Considering that these vessels had to coast round to Italy, and the mariner's compass was not invented, what the cost of them must have been on their arrival it is impossible to say. A good deal of this sort of thing, however, has died out. The nearest approach is the importation of live turtle; but even when a turtle arrives alive it does not fetch more than 1s. per lb., and we fully believe in time means will be found of sending turtle soup home from Queensland and other places in tins, equal to fresh-killed turtle in England.

In ordering and preparing a really good dinner, you cannot do better than pick the very best of *what is in season*, taking great care and pains in the preparation of this food, and avoid the expense and failure of attempting to put on the table startling novelties, like our friend the Count of Monte Cristo, who on this particular occasion showed himself in the light of a beggar on horseback.

Components of a Dinner.—Sir Henry Thompson, whom we have before quoted, considers that "a dinner, properly so-called, should consist of introductory or preliminary dishes, composed of soup or fish on the one hand, to a choice of soups and fishes on the other. Then should follow a substantial dish, known in bills of fare as *relevé* or *remove*. Then should follow a few choice dishes or *entrées*. Next, a dish of marked flavour—'the roast.' This, of course, means almost always a bird, especially game, when it is in season. Then follow the *entremets*. These consist of vegetables, which should form a course by themselves—such vegetables being what would be called choice ones, such as asparagus, green peas, artichokes, French beans, &c. Then comes the sweet or sweets, and then the savoury, such as cheese *soufflé*."

As an instance of what we should consider a really first-class dinner, we will give a specimen of each of the dishes we have named. First, a ladleful of real clear turtle, followed by a slice of Christchurch salmon and a few whitebait. Then a cut from a good saddle of four-year-old mutton, with a floury potato

and a little red-currant jelly. This might be followed by a *vol-au-vent* of oysters. Next a woodcock. Then a dish of asparagus. A *compôte* of fruit in a bowl makes one of the best sweets that can be served, and to finish with, a good *soufflé* made with Parmesan cheese. At the end of a repast such as this, there will be but few guests who cannot rise and say with satisfaction, "I HAVE DINED."

Of course, the *menu*, properly speaking, belongs to the province of the mistress rather than the cook; but in ordinary establishments it is necessary that the cook, if at all a competent one, should be taken into consultation, especially where the cooking appliances are limited. Another point for consideration is the number of servants you have at your disposal to wait at table; and not only does it depend upon the number of servants, but upon their capabilities and dispositions.

The Servants.—First of all, there is cook herself, the high priestess on this great occasion. She may be very good and very competent, but nervous and diffident of herself. These women generally in the long run turn out the *best*; but we have got to allow for their disposition. We may also have the cook who thinks too much of herself, and her conceit ruins everything, only showing the truth of the wise man's statement that "a proud spirit goeth before a fall." Then there is the waiter or waiters, male or female, as the case may be. The first point for consideration is, Will the cook and the waiters pull together, or are they antagonistic? There is the cook's work in the kitchen, and the waiters' work in the dining-room; but also, and by no means the least part of the whole affair, there are the communications between the two. In other words, there is the "up and down kitchen stairs work," the fetching and carrying.

Now many a nice and promising little dinner party has broken down because the waiter tried to shirk the "waiting on cook," and the cook, who is perhaps hot, fat, and fussy, won't wait on the waiter. We have all read of—and it is a never-ending subject for jokes—the antagonism between the cook and butlers. We remember the page, in "David Copperfield," who would shriek for help on the most improper occasions, such as "when we had a few friends for dinner, and who lived in a 'hail of sanee-pan lids.'" There is the boy Bailey, who let the guests wait upon themselves, and, with his legs wide apart, "led the laughter and joined in the conversation." Again, there is the waiter promoted for the occasion: the coachman, who is supposed to help, but who is more in the way than he does good. In "Happy Thoughts" this man is described to perfection:—"I catch his eye, but he gives me such an imploring look, as if begging me not to ask him to do

anything." There was a picture in *Punch* a few years back of an Irish recruit assisting in waiting at the regimental mess. An indignant officer says, "Confound you! bring me some bread, can't you?" Whereupon the unfortunate waiter replies, "Plase your honour, I'm tould off to biled cabbage"—which dish, and which only, it appears, he had had instructions to hand round. Perhaps cook gets a minute behind-hand, and the waiter says, "Now, cook, they are all waiting"; or the demon boy says, "Oh, ain't they jest a-going on at you upstairs, cook!" which is "fruitful hot water for all parties." Again, cook is afraid of being too late: in fact, is too anxious, and takes up a dish and puts it on the hall table, and next time she runs upstairs with another dish, sees it still there, getting cold. She gets flurried, and things go from bad to worse.

Then there is the chance of cook "losing her head," as it is called. She sends up the fowls and gravy, and forgets the bread sauce; remembering it too late, she runs upstairs with it, and then perhaps the outside man, the coachman or gardener, will be found handing it round with the wrong dish later on—the jelly, for instance. The moral of all this is to bear in mind that one or two really good waiters are worth a dozen bad ones, who interfere with one another, and quarrel outside the door loud enough to be heard. Waiting is an art, and no one can wait at table without instruction. The cook and waiters must help one another, and be able to depend upon one another. Nothing can be more annoying to a good first-class cook than to take great pains over some dish—a sauce, for instance—and then to find it has never been handed round.

But now, where the waiting is not first-class, it is just as well to avoid having *too many things to hand round*, such as melted butter, anchovy sauce, cucumber, lobster sauce, bread sauce, caper sauce, Chutney and Bombay ducks, and rice with curry, &c. It is not every waiter who *knows* what sauce is proper to each dish.

Forethought.—Thus the success of a dinner very often depends upon forethought. For instance, suppose we plan for our fish salmon or stewed eels. The number of guests is somewhat large, and you have only one person to wait at table. Consider for one instant how much less trouble there is in the dish of stewed eels compared with the salmon; and this trouble applies not only to the waiter, but to the cook. Salmon requires serving *directly* it is cooked, and if there is much delay—and we all know how often delays will occur in sitting down to dinner—the salmon will be nearly spoilt. If dinner is ordered, say, at seven, it requires some nerve on the part of the cook to anticipate a delay which possibly

may not occur. Again, nervous waiters are always more flurried and more anxious during the early part of the meal than later on. Guests, also, are more silent, more impatient, and much more observant, during the early part of dinner than when they have partially satisfied their hunger, and, in addition, had two or three glasses of wine, which, we are told on the highest authority, "cheereth God and man."

First of all, there is never any difficulty about taking round soup; unless, indeed, it be that the work is doubled by having to hand round lemon and cayenne pepper in case the soup is turtle, or fried *croûtons* of bread. In the case of salmon, however, we have to hand round not only the fish itself, but the lobster sauce, the cucumber, and, in addition, some may require additional anchovy sauce to what they have on their plates. Now, the stewed eels will give just one-third of the trouble, and would be none the worse should the dinner be ordered at seven, and yet, from some cause or other, the guests were not to sit down till eight. We mention this, as we expect that the remarks we make will be read, if with the view of being acted on, by young, or, at any rate, inexperienced housekeepers, rather than by old stagers who will never leave their own beaten track. We, therefore, mention this contrast between a salmon and stewed eels, as an illustration of the importance of forethought, not only as to the preparation of the dishes, but as to the serving. The stewed eels will require but one waiter. The salmon, in proportion, requires three; and we all know the delay that takes place when people help themselves to cucumber, compared to many other things that may be handed round.

There are many other dishes besides stewed eels that make an agreeable change from the more constant salmon and turbot that are so invariably met with at most dinner-parties. In one respect turbot is almost as troublesome as salmon. We have to hand round lobster sauce (which often necessitates extra anchovy sauce in a bottle), and also potatoes, it being a very right and proper custom now to hand boiled potatoes with all kinds of what may be termed plain fish. It is therefore advisable at times to fix upon some fish which will not require anything to be handed with it, thereby giving those waiting at table more "breathing time" early in the dinner. One capital dish is sole *au gratin*. A description of how to make this dish will be found elsewhere; but it is always a pretty-looking dish, more especially if some of the mushrooms be glazed and placed on the top. In the present day soles are, of course, very dear—far dearer than either salmon or turbot, if you have a very large pair; but a very good substitute will be found in lemon soles, which are far cheaper. Lemon soles

can be filleted and served "*au gratin*." Again, that cheap fish, fresh haddock, does exceedingly well when cooked this way. Lemon soles can also be filleted, the fillets being rolled and served with some rich *Hollandaise* sauce. This dish looks very pretty, especially when each little roll of fish is ornamented on the top with some little pieces of the red skin of a chilli, placed alternately with thin slices of green gherkins. The sauce in the dish, which is of the colour and consistency of good custard, can also be ornamented with little specks of red and green. This dish, like stewed eels and sole *au gratin*, possesses the advantage of requiring nothing to be handed round with it.

The same principle holds good with many other dishes. For instance, take a dozen persons and one waiter, and suppose the game consists of roast pheasants. First, there is the bird itself to be placed in front of each guest; but, in addition, there is bread sauce and gravy. On the other hand, jugged hare requires but red-currant jelly; and a salmi of game requires nothing to be handed at all. A plain sirloin of beef wants two waiters, if served English fashion, as you have to hand round two vegetables, Yorkshire pudding, perhaps herse-radish sauce, and mustard. Many years back, at times, there were substantial *entrées* which required carving, such as pigeon pie or beef olive. The delay caused by such *entrées* was at times terrible. On the other hand, such *entrées* as oyster patties, stewed kidneys, lobster cutlets, kromeskies, partridge cream, lobster cream, give no trouble at all.

It will, therefore, always be found advisable to start well when the waiters are inexperienced, nervous, or deficient in number; and soup and fish, such as Julienne and stewed eels, are far better for them than pea soup and salmon. True, pea soup is seldom given at a dinner party; but we mention it to show the principle at stake, which is to avoid having any soup which requires anything handed round with it in the shape of dried mint and fried *croûtons* of bread. Real turtle wants cut lemon and cayenne pepper. Palestine and, indeed, all white soups require fried *croûtons* or toasted bread.

A good cook, with a little experience, will be able to calculate how long the soup and fish will take before she sends up the *entrées*. She has to hit the happy medium between sending up the *entrées* half cold and being too late. She must remember, however, that *after* soup and fish slight delays are of no consequence; but, whatever you do, don't have any delays *between* the soup and fish. Where both are placed on the table, there is of course no fear; but in a dinner *à la Russe* this is an important point. The most difficult of all fish is whitebait; but, fortunately, whitebait nearly always *follows* another fish,

which is served before it. It is very easy to draw up a good bill of fare if we were to tell some first-class pastry-cook to supply the dinner, the cooks, and the waiters. All we should then have to do would be to sign a cheque; but our endeavour is to give a few hints on the subject of dinners from the kitchen point of view.

Order of the Courses.—One great point in dispute is, Should the *entrées* precede or follow the joint? In most of the big dinners in America—and we refer to that grand establishment known as Delmonico's—the remove comes first. Were ladies to try the experiment in this country, we believe it would give universal satisfaction. If your guests are really hungry, the substantial part of the meal ought not to be too long delayed. After soup, fish, and perhaps a taste of two rich *entrées*, the appetite is destroyed, and a cut off a sirloin of beef or a saddle of mutton cannot be properly appreciated. No persons in their senses would give a child its tea by commencing with a little slice of bread and jam, and then a little slice of bread and honey, and then hand round the bread and butter. True, in middle-class society the fashion remains very much what it did forty or fifty years ago, viz., the *entrées* precede the joints. But we should remember that at the period we speak of the *entrées* assumed, as a rule, a very different form to what they do in the present day. We refer to the period before real French cookery had been introduced into this country. Our fathers had a great contempt for what they used to call kick-shaws; and although this feeling of contempt has died out amongst the upper classes and among the well-to-do middle-classes in London and large provincial towns, a good deal of the old feeling still exists among what may be termed middle-class society in smaller provincial towns and in the country. Here the *entrées* were of a different character altogether from those met with in London society. Instead of light *entrées*, the dish presented in their place partook much more of the character of what would now be called removes. For instance, the following dishes, some years back, would appear on the table—(the *menu* was not then invented, whereby you could see what you were going to eat)—in place of the very light *entrées* which are now commonly met with. Pigeon pie hot, beef olive—this being a most singularly solid production—stewed steak, and in some instances even game would make its appearance as an *entrée*. Jugged hare was another *entrée*, which is, of course, essentially game. Indeed, the game did not make its appearance always in the shape of salmi of pheasant or salmi of grouse, but the game appeared roasted whole, bodily. We can recall an instance, within the last ten years, of a

public dinner in Brecknockshire, where the game preceded the meat! Of course, this is absolute barbarism.

The order in which dishes should be served at dinner does not altogether depend upon fashion, but upon common sense. No reasonable person would let a haunch of venison follow a haunch of mutton, or a roast pheasant follow a roast fowl. Any one, however, who reversed this order, and served the haunch of venison first and then the haunch of mutton, or the roast pheasant first and then the roast fowl, should be taken at once to Colney Hatch—indeed, we are not sure that Broadmoor would not be a more suitable place for such a dangerous lunatic.

These extreme cases are necessary sometimes to prove our point. As Paley observes, when a mathematician wishes to prove any theory, he tries it on a simple case, and if he proves a *reductio ad absurdum*, it shows that some of the premises are at fault. To allow a haunch of mutton to follow a haunch of venison proves from its own absurdity that there must be *some right course*, within certain limits, of serving dishes. We are all agreed upon one point, viz., that we commence dinners with soup. Possibly this may be on the grand general principle that a starving man would have broth in preference to anything else, although in extreme cases a little warm wine and water is administered. But here, again, comes in the question of soup. What soup? We consider it a barbarism to begin dinner with a thick soup of any description, if the dinner is worthy of the name. Thick mock-turtle or thick ox-tail, with a crusty roll and a good glass of Madeira, make a splendid *luneh*, but are utterly unsuited to commence the dinner, which, as Sir Henry Thompson so kindly points out, should be a harmony of flavours—excepting always the case of City dinners, “where the turtle forms perhaps the chief part of the whole.”

Therefore, in giving a dinner, remember that everything, from a worldly point of view, depends upon the soup. No after-dishes will make amends for what some people call dish-water. The soup should be clear, and depend for its flavour upon the pure juices of the meat—a mixture of beef and veal—flavoured with the pure juices of the vegetables, not omitting the celery. The soup should be bright, like pale sherry, and yet a hard jelly when cold. The fish, which follows, is a light food, and easily digested. A man must be very healthy indeed to put very heavy food into an empty stomach. All people, we think, are agreed up to this point. The disputed point now is, What shall follow—the joint or the *entrée*?

The most fashionable *entrées* at the present day

are mixtures of game and cream, to which we have already referred, sweet-breads *à la financière*, or *à la Toulouse*. It certainly seems more reasonable that these rich dishes should follow, and not precede, the cut off the eternal saddle of mutton. This question will probably settle itself during the next few years, but, like all other things which depend more on fashion than common sense, the flock of sheep will follow the bell-wether, rather than decide the point for themselves.

That game should come near the end of a dinner is a principle that seems founded on common sense, almost as much so as that sweets should be at the end, and not at the commencement. No reasonable man, we should imagine, would care to eat roast beef after roast grouse. There is perhaps one dish that stands almost alone in a big *menu*, if indeed it appears at all, and that is curry. In the olden days, curried rabbit was not uncommonly met with at dinner parties as an *entrée*. This is now quite a thing of the past. For many years curry has formed the *grand finale* in all meals served on board the P. & O. boats; and our own common sense should teach us that a dish so highly spiced is only suited at the close of a series of whatever dishes may precede it.

In the present day, what we understand by *hors d'œuvres* are supposed to be some slight kind of appetiser, which even precedes the soup itself. In this country, probably the only *hors d'œuvre* that is really recognised is a few oysters—six would be the limit. The proper accompaniment, if any accompaniment indeed is required, is, in our opinion, a dash of lemon-juice. These oysters should be served in the deep shell, and be accompanied by their native liquor. Some people prefer white wine and French vinegar. A *sine quâ non* also is a few slices of thin brown bread and butter. It is necessary to wash these oysters down with a glass of chablis. On the Continent *hors d'œuvres* are served in much greater variety, and may be seen in the very simple form of a few radishes, placed in a little white china dish of the shape of a shell, in company with a pat of butter. Again, we find a thin slice of Lyons sausage. Filleted anchovies are also sent to table for the purpose of creating an appetite. How terribly luxurious this sounds! Is it not, after all, a remnant of barbarism, which corresponds with the quill that tickled the throats of the ancient Romans? Olives, again, form not only an accompaniment, but the eating of a single olive between the different courses cleanses the palate.

The Test of Hospitality.—The one great maxim that all should bear in view, and which, indeed, is the first principle of hospitality, is—*please*

your guests. Do not flatter your own vanity. Should the dinner be a Christmas one, and you invite your poor relations—who, like Christmas, come but once a year—do not think that putting out all the plate on the sideboard will make any amends for, on this occasion, having in some cheap champagne from the grocer's; and, on the other hand, should you entertain people moving in what you consider a higher sphere of society than your own, do not put yourself out of your way to give a dinner above your means, or supply a wine the merits of which you do not understand yourself, and which, though it costs a great deal of money, will probably pass quite unnoticed by your guests. There is many a varied sermon that might be preached from the text: "To him that hath shall be given."

With regard to the service of wine but little need be said. The tendency of the age is show; and in the present day the amount of bad wine served at the tables of really rich men, who can afford to do better, is absolutely astonishing. Why, for instance, should some filthy sour mess, which makes your stomach ache, be absolutely advertised as a "good dinner wine?" How often has a man's dinner been spoiled by drinking a glass of claret at 18/- a dozen, or a glass of sherry at the same price, which is a fruitful cause of dyspepsia: some of the so-called hocks, which are sold cheap, contain no real grape juice at all. This mania for cheap things is becoming a curse, and the man who had the honesty and the boldness to say he could not afford good wine, and gave good wholesome bitter ale, might possibly become the most popular dinner-giver amongst his acquaintances. But then who has the courage to begin?

Notice to the Cook.—But let us descend to the kitchen. Here, at any rate, we can afford to be honest; and the first point in giving a dinner is to let the cook know beforehand—three or four days, if possible—what she is expected to do, in order that she may collect her thoughts and think things over. The first thing here that will strike you is that most cooks—we refer to women cooks—resemble barrel-organs, which play a certain number of tunes, and are quite incapable if you order any tune that is not dotted out on their own particular barrel. Again, if you require a novelty in the way of dishes, have a rehearsal, as if you were bringing out a new play. If a cook at your instigation produces a new dish for the first time on the occasion of receiving company, the result will be probable failure. Cooking is an art—and a high art, like music. How many accomplished young ladies are there who would venture to sing a song for the *first* time in a crowded

drawing-room from music they had never seen before? And yet this is what some ladies expect the cook to do from a cookery book! Cookery books are all very well in their way; but experience is worth all the books in the world, and one of the best women cooks we ever knew could not read or write.

If the cook has full warning of what she has to do, and is a sensible woman, she will look ahead. The soup and the gravy can often be made not only the day before, but two days before, and the dregs of the materials used in making them can be brought into play for other purposes. Timely notice will also enable her to get in all those odds and ends which, even in the best regulated houses, will sometimes run short. For instance, we may mention (and we refer more particularly to people living in the country) such out-of-the-way things as tarragon, garlic, and special sauces, which are not always to be obtained at an hour's notice. Bay-leaves are not readily to be had without a knowledge of the surrounding country, and an elastic conscience on the point of *meum and tuum*.

Consideration for the Cook.—It is wonderful how a thorough knowledge of cooking on the part of the mistress will help her not to give the cook too much trouble. There are certain very simple dishes which, on the occasion of a dinner-party, give a great deal of trouble, and other dishes, which may be called elaborate, give, comparatively speaking, no trouble at all. We will contrast a plain dish of mutton cutlets and tomato sauce, with a *vol-au-vent à la financière*. The reason of this is that mutton cutlets in perfection must be cooked *the very last moment*. A mutton cutlet that has been cooked, and then kept for half an hour, would not be worth eating. On the other hand, the contents of the *vol-au-vent* might almost be made the day before, while in the case of the pastry it would undoubtedly be made the previous day. In the case of the *vol-au-vent*, all the cook has to do is to have the interior hot, in a small copper stew-pan; the empty case would be ready in a tin. Just before she serves up the soup she should empty the stew-pan into the pastry case, and what she calls "pop it into the oven." By the time the dirty fish plates come downstairs the *vol-au-vent* would be ready to be served. On the other hand, the cutlets would give a lot of trouble, not the least of which would be the hot fat in which they ought to be fried, and its attendant smell.

Whitebait is a very troublesome dish to serve in a private house for a dinner-party, requiring, as it does, cooking at the very last moment, and fat to cook it in heated to a temperature of nearly 500 degrees. This also applies to fritters. On the other

hand, sole *au gratin* is always a favourite dish, is not spoilt by half an hour more or less "keeping hot," and has the additional advantage, as we have already said, like stewed eels, of having no sauce to be handed round with it. By this means you give those who wait at table more time at starting to look about them and to get their hand in, and this, in the case of young and inexperienced servants, who are apt to get over-anxious and nervous, is a matter of very great consideration.

If the cook, also, is young and inexperienced, it is a great weight off her mind to have one or two dishes that she knows are absolutely settled beforehand; and this, of course, applies to every kind of cold dish. A cold *entrée*, for instance, is a case in point, such as *pâté de fois gras* in aspic jelly, or thin slices of *pâté de fois gras* placed alternately in thin slices of the white meat of a fowl, ornamented with aspic jelly or a good lobster salad mayonnaise. Besides, all these cold dishes can be prepared by the skilled hands and superior artistic taste of the mistress herself. There are certain cold sauces that can be prepared beforehand, and which save a great deal of trouble at the last moment. We may mention horse-radish sauce, to be handed round with roast beef; and *tatar* sauce, to be served with salmon. It is wonderful how, by taking all these points into consideration, you can make a dinner a real success, whereas by thoughtlessness you may have a failure.

In drawing up a bill of fare, great care should be taken to avoid a constant repetition of flavours. For instance, it would be very wrong for cod-fish and oyster sauce to follow oyster soup, or to have lobster patties immediately after salmon and lobster sauce. Indeed, to have two dishes following one another with similar sauce should, if possible, be avoided.

Cutlery.—One point requiring considerable care and forethought is to supply constant relays of spoons and forks. Suppose there are twelve persons to dinner, and your stock of silver consists of three dozen large forks. It is not every household that possesses silver fish-knives, and when these are absent, a great many of your guests—probably the majority—will take two forks for their fish, the old-fashioned plan being to take a piece of bread and make it do duty as a fork, in the left hand. Now suppose our dinner consists of the following dishes, requiring a large fork:—Fish (and we will suppose two to be used for this purpose), two *entrées*, with a clean fork for each, one help of the joint, and perhaps two tastes of game. Each guest will require seven large forks. Now, very few households possess a stock of seven dozen silver forks. The usual plan, therefore, is to have outside the dining-room a handy girl or charwoman with two jugs, one containing the hot

water and soda, and the other hot water. As the dirty plates are removed, the forks are collected, hastily wiped, and then plunged into the hot soda and water, and afterwards rinsed in the plain hot water, when they will thus do duty over and over again. Most of you will observe that in the later stages of dinner the forks come in lukewarm.

Knives often have to be treated in a similar fashion. Indeed, in some cases (on great occasions), the process of washing up dishes has to be conducted on the same principle. It is a very good lesson to cooks, housekeepers, and servants in general, to observe at what a rapid rate you can wash up when you are pressed; and we believe it would be a great saving of time if those persons who stop washing-up, instead of leaving off at the first moment they think they can do so, were to continue till the close of the dinner, when, lo and behold! everything would be washed up and finished before you knew where you were, and before even the servants sat down to that enjoyable little supper which on these occasions usually takes place whilst the guests upstairs are amusing themselves in the drawing-room; for there is a sort of tradition in all households that after a dinner-party servants can share some of the good things that have been left, which the cook considers would not be worth making a fuss about, to say nothing about the half-glasses of wine which find their way down to the pantry, and which, as a rule, are not poured down the sink.

Smell of the Kitchen.—Too often the first greeting of the guests is the smell on opening the street-door, and persons who are sensitive on this point will often be able to tell pretty accurately what sort of dinner they may expect. Of course we are now speaking of the ordinary small house, where probably the number of guests would not exceed six. Thanks to the barbarous custom of having the kitchen at the bottom of the house instead of at the top, this smell cannot be avoided. We firmly believe the time will come when kitchens will be built at the top of the house, dishes being sent downwards on a lift; and when, perhaps, the outside of the house, on the top, will be a small garden, where we can enjoy a cigar by moonlight. Dr. Richardson has already foreshadowed this "good time coming." There are many places in the City where the kitchen is at the top; if we recollect rightly, Pimm's and the Guildhall Tavern are two of them. But we must take the world as it is, and not as it ought to be. The worst smell of all, on entering the street-door, is a mingled odour of greens and a fried-fish shop. It makes one wish one hadn't come, before one takes off hat and great-coat. Very superior to this is a mingled smell of game and rich pastry. The highest form—

that of sweet-scented flowers mingled with hothouse fruits, such as pineapple—is best; but this is not so easy as people imagine. Oh! if only on entering we are reminded of Covent Garden Market, with Piesse and Lubin living next door. Yet, if we have many dishes that require frying at the last moment, it is very difficult to avoid this fried-fish shop aroma.

All these things require forethought. If it be winter-time, and the shutters are closed and the curtains drawn, you will get the whole house to reek with the smell of cooking before you know where you are; and, as a rule, greens are to be avoided. Cooks, when in a hurry, are apt to forget some of the most fundamental principles of their art, one of which is—never to pour green-water down a sink: but then, when everything is confusion and bustle, cooks will be more than human if they do not make occasional mistakes.

Failures.—In giving a little dinner, it is a good plan to try to recall, as much as possible, the general failures that we meet with at the dinners to which we are invited. We might run through a few, and see what we can do to avoid them in our own case. Where the number of persons waiting is not in excess of what it should be, or rather the other way, it is always annoying for guests to have to ask for things. The first case that occurs to us is that of bread. Some persons are very large bread eaters, and really do not enjoy their dinner without an adequate supply. Yet it is not an uncommon thing to exhaust one's stock of bread quite early in the dinner, and to have some little difficulty in getting a fresh stock. There are some cases of confirmed diners out, especially at public dinners, putting one or two stale rolls in their tail pockets, but it requires some nerve to do this at a gentleman's private house. The simple remedy is forethought.

A universal complaint, so far as our experience goes, is that vegetables are too often served cold. How many readers can recollect ever having a really hot Brussels sprout? This applies equally to French beans and green peas.

Another point is that the game is invariably over-cooked, and the reason is that very few cooks have got the nerve not to commence to cook the game till after they have served the soup. Suppose the dinner to consist of soup, fish, two *entrées*, followed by two joints, such as a haunch of mutton and boiled turkey, with accompanying vegetables; suppose the cover is taken off the soup tureen precisely at eight o'clock, and suppose there are twelve persons to dinner; at what hour will the game make its appearance in the dining-room? Of course this depends upon the conversational powers of the guests, but a private party, where the conversation

is general, would be much slower than a public dinner, where the guests give their whole attention to the dinner, and are looking forward to the speeches afterwards. In a private house we do not think we should be very far out in allowing an hour to elapse before the game would absolutely be served; at any rate, it should be getting on for an hour. Now, on the occasion of a dinner-party the kitchen oven is generally in full swing. There is sure to have been a roaring fire during the last two or three hours. Supposing the game to be served is snipe, or woodcock, or partridges. These delicious little birds will be all dried up and utterly spoilt, unless the cook, as we have said, has the nerve to wait—for it does require nerve to see the game in a raw state on the dresser, and to know that the people have absolutely begun their dinner upstairs, where she can hear the clatter of the knives and forks. Yet, on the other hand, what a triumph of the cook's art it is to finish off with a really well-cooked woodcock—soft, and tender, and juicy; for the bird, when cut, should show just a little red gravy at the point where we separate the wing from the breast. Generally, however, we find that the game is so over-cooked that it almost crumbles in the mouth, in which state, of course, all real flavour of game is absolutely gone. We should also remember that very often the course of game is the most expensive part of the dinner, after *entrées* and joints. If by chance the cook has made a mistake, a trifling delay is of no moment; while, on the other hand, the worse delay of all is that between soup and fish. A judicious hostess can often assist the servants, if things go a little bit wrong, by dawdling over a help of meat, and thus give the waiters or waitresses time to get things a little bit straight.

Variety.—In giving dinners, one difficulty is the eternal sameness of affairs. There are certain houses where you have been in the habit of dining, in which, beforehand, you would probably be able to say, almost to a dish, what you were going to have for dinner. As a rule, this fault—if fault it may be called—is that of the mistress. Persons settle down to a certain number of stock dishes. What we want is more variety; and in giving a dinner-party, the mistress would do well, every now and then, to try and give a dinner in which two or three at any rate of the dishes should be different from what she has ever placed in front of her guests before. If these are cooked at home, as we have pointed out before, it will be necessary not to have one rehearsal, but several. It is a very common plan in some households to have the greater part of the dinner cooked at home, with perhaps two high-class *entrées* ordered specially from a pastry-cook's. Of course, in London

this is very simple. There is no better lesson in cooking than to see and taste a really high-class dish; and if you take an interest in the subject of cooking, we would try and impress upon you the desirability, not only for your own sake, but for your cook's sake and your husband's pocket's sake, to at any rate *try* to imitate any dish that may be sent in, that you consider worthy of imitation.

Very often these, what may be termed grand dishes, are very much better made at home than made out. The ordinary patties one gets from the pastry-cook's are seldom worth eating. The same applies to *vol-au-vent*. It will be found a great saving of time and expense, if you have either of these dishes at a party—and they are always very popular—to buy the pastry-cases, and to make the inside at home. It is very difficult to make a really good *vol-au-vent* case in a small oven in a private house. A Francatelli himself might very likely fail. You want a large baker's oven, to make sure. But there is never any difficulty about making the inside. Take, for instance, the simple case of a *vol-au-vent à la financière*. You buy the pastry-case; and if you want it to perfection, go to some French cook in the neighbourhood of Soho—that wonderful neighbourhood where a happy few live three times as well as the unhappy many, on one-third the cost. All you have to do is to buy the *financière* mixture in a bottle. The addition of a very little strong stock, a little meat, bread, and some boiling cream, will enable you to make a better *vol-au-vent* than were you to go to a pastry-cook's direct for the whole.

Ladies in middle-class society often fight too shy of striking out novelties. In England there is not much variety in dinners all the year round. For instance, every one gets too much turkey at Christmas-time and too much lamb in spring. Then in high-class dinners there is the turkey *à la chippolata*. The saddle of mutton is a terrible fixture, and no one wants to dine off salmon every day. Why not now and then, especially in summer-time, strike out a new line? We would suggest, for a hot August day, a dinner in which the only two things hot would be the soup at the commencement and curry at the conclusion. Only, do not let the soup be mulligatawny. What a delightful thing a fish dinner is, especially at Greenwich! Why not attempt a fish dinner at home, by alternately having dishes that can be prepared beforehand, with those that require preparation at the last moment? It is very easily done in a private house, as the same fat does for every fried dish; while if we shut the kitchen door, and open the window at the top, no smell need penetrate to the regions above. There are many dishes that can be prepared beforehand from fish,

which will give the cook time to prepare something fresh. For instance, we can have stewed eels, fish pudding, curried prawns, or curried shrimps. These, of course, must come near the finish. Then a fish dinner requires no vegetables, and the cook is able to concentrate her attention on one dish at a time; and by sending some competent person down to Billingsgate Market in the early morning, you can give a very first-class dinner at a very small cost.

Wine.—In conclusion, a few words will not be out of place on the service of wine. There seem to be certain fixed rules about certain wines being adapted to certain fixed dishes. If we commence dinner with oysters, it seems an established rule that we must drink with these oysters a glass of chablis. At any rate, no one in his senses would essay to drink stout with his oysters at the commencement of his dinner; we cannot imagine anything worse than a glass of stout just before taking soup. The idea of any stimulant creating an appetite is dying out, although at the regimental mess and the little bachelors' dinners at the clubs, sherry and bitters—and, indeed, gin and bitters—is still not unknown. There are cases on record where men have been known to add a pinch of cayenne pepper to make the stimulant more stimulating, thereby proving the truth of the old maxim that "there is always a lower depth." If we have real turtle, it seems to be a fixed rule that this soup is followed by either a glass of Madeira or cold punch. The best cold punch in London is to be obtained at the "Ship and Turtle," in Leadenhall Street, as well as at most of the big City dinners. The secret of the composition of this insinuating fluid is that it is made with green tea, which prevents you getting sleepy, and that there is just a dash of Maraschino, which gives it a peculiar flavour. Cold punch after turtle is, however, chiefly confined to the City. If you do have cold punch, have the genuine article, which is of the colour of golden sherry: do not have that sweet milk punch, sold in bottles. This milk punch is not worth drinking.

Ordinary soup requires a glass of sherry; and Sir Henry Thompson speaks of this first glass of sherry as one that is particularly grateful, being the "first glass of wine tasted during the day." Fish, probably, in the opinion of most persons, requires a glass of wine more than any other part of the dinner. Of course, at a *dinner-party* wine is essential throughout the meal; but there are many persons who drink beer with their dinner as a rule, and yet make no objection to a single glass of sherry with their fish. Hock is a wine which also seems to go with fish, in the same way that a glass of good

claret goes with mutton. With rich dishes, such as *entrées*, there is no wine like Burgundy. In England, champagne, fortunately, is dry, but abroad this wine is generally served sweet. One very great mistake in giving dinners is to serve champagne too early in the meal. Sparkling wines are unsuited early in any dinner, and on the Continent the fashion is to have sweet champagne served with sweets. However, drinking wine after dinner is now quite a thing of the past, and the cigarette now

takes the place of the bottle of port. There used to be an old-fashioned prejudice about smoking and drinking, the one, it was supposed, being conducive to the other; but in the olden days smoking at all was often considered a sign of dissipation. The proper finish for a good dinner, in the opinion of most men, is a cigarette and a cup of good coffee; and we may, in conclusion, again quote Sir Henry Thompson on this subject, who says, "for unquestionably tobacco is an ally of temperance."

GARDENING FOR JUNE.

The Gathering or Cutting of Flowers.—

This is a subject which, at a glance, might not appear to be of any great importance, nor require much care or thought in its performance. Such, however, is far from being the case, especially where every flower is valued, either from the limited means for the cultivation or from its scarcity. In order to make the most of flowers when they are cut, it is necessary to prolong their fresh appearance as much as possible, and thus spare those that are still upon the plants. One way by which this object may be attained is by cutting them throughout the summer months quite early in the morning, while the dew is yet fresh upon them. The operation is even made far more enjoyable when performed early in the day, as well as being done in far greater comfort. The flowers display their beauties much more effectively when glistening with the dew. The mere fact of its not being convenient to arrange them thus early, need not be any hindrance to cutting them. They can be placed in a cool place, free from any sharp currents of air, with their stalks in water, until a convenient time. For this purpose deep dishes or basins are as useful as anything, in which they would not get damaged by overcrowding. No doubt many of our observant readers will have noted how quickly flowers will droop when cut in the heat of the day. This is but natural, for at that time there is a rapid evaporation going on, which taxes the resources of the plant in all its parts, and the flowers, when cut off from their supply, quickly wither. The large exhibitors of cut Roses and other flowers are fully alive to this, and either cut their flowers late at night, or at day-break, the latter being preferred. The colours are always brighter, especially in the case of Roses, when taken with the dew upon them in the cool of the day.

Another point with regard to preserving flowers as freshly as possible, is that of avoiding any delay in their arrangement, provided they are not mean-

while in water. Crowding too many into any given vase will also be detrimental, through the withdrawal from the water in a rapid manner of those elements contained in it that are essential to their support. In the selection of flowers also, a few words are necessary, so as to make the most of them in that respect. It is not a good plan to allow any flower to become fully developed upon the plant before cutting it; especially when retained so long, perhaps, as to be upon the point of declining in beauty. Some flowers will open almost as well off the plant as when still upon it; the *Narcissi* or *Daffodils* are good examples of this, so also are the *Gladioli*; in fact, most of the bulbous plants have this property. The Rose, too, will last much more freshly when cut just as the bud is expanding; the *Mignonette* is another instance, continuing to unfold its spikes of bloom for some days.

Those plants that are producing a greater amount than usual, and in excess of their neighbours, should be the first to be relieved of their burden, thus diverting the resources of the plant to other channels, for its future well-being. Take, for instance, any kind of plant that has but recently been transplanted. Should such, the first season, be disposed to perfect too many flowers, by all means remove these to a partial extent—notably in the case of Roses—so that the plants may have strength yet left in them for developing wood-growth for another season: otherwise plants that show a disposition to such an excessive flowering as to tax their vitality will be greatly weakened, and less liable to withstand the inclemency of our winters. Another point in the cutting of flowers is the length of stem taken off with them. This should always be as long as possible without injury to the plant, so that the after-arrangement of the flowers can be done more effectively.

These hints as to the cutting of flowers are given after considerable experience, the outcome of close observation extending over several years. If

acted upon, we feel fully persuaded good results will follow; and the greater the amount of pleasure that can be extracted from the garden, the greater will be the inducement to more extended cultivation in the future as opportunities may occur in that direction.

Flowers from Seed.—Those who do not as yet possess any of the free-growing and very floriferous varieties of *Polyanthus*, or any of the highly-coloured and diversified forms of *Primula*, will do well to sow seed of both at once, after having procured it through a reliable source, as there are inferior kinds at times offered at a cheaper rate. A partially-shaded spot should be chosen—if possible, either where the early morning sun, or that of towards the evening only, reaches the young plants; full exposure is too trying to the young plants at midday. The soil for the reception of the seed should be worked down finely, and should be of moderately good quality. If rather stiff, some finely-sifted leaf-soil would greatly help it; or if, on the other hand, it should be light and very porous, some good loam would be the best addition.

It is essential for the soil to be in good condition when the seed is sown; should it be at all dry, a good watering prior to sowing will be better than afterwards. Some fine soil should be at hand to lightly cover the seed directly it is sown, and this may be gently pressed down with the palm of the hand. Afterwards a light sprinkling, with a fine rose upon the water-can, should be given, but only sufficient to moisten the surface-soil. If arrangements could be provided for covering the spot with a few panes of glass, or a spare light from a frame, the seed would germinate more quickly, and would, in the meanwhile, require but little watering, as a more equable condition of the soil in respect to moisture is thus maintained. As soon as the seedlings are large enough to handle, and can be taken up with a nice quantity of young roots, they should be pricked off singly in rows—four inches between the plants, and six inches between the rows; this allows for a hoe of small size to be worked amongst them, as may be needed later on. In this manner they will grow away freely, with attention given them in watering during hot days; but later on, as the cooler evenings set in, they will increase in strength yet more quickly. By the third week in October most of them will be fit to use as margins to flower beds, and for the first season may be planted pretty closely together, unless bulbs are intermingled with them. They will yield the best returns in flowers the second and third year. When in flower the first season, any inferior ones can be discarded.

The *Myosotis* or *Forget-me-nots* require to be raised

from seed in a similar manner, and afterwards pricked off a little further apart. These are best treated as annuals, and should be sown every year in June, although they may be divided each year and grown on as with cuttings. Those recommended in the flower seed list early in the season are the best kinds to grow. *Myosotis alpestris*, "Victoria," is the dwarfier, and should be arranged accordingly when planting-time comes round in October.

Wallflowers—of those sorts which were recommended—should now be sown, but a more sunny spot may be allotted to them. They are raised easily from seed, and with less care bestowed upon them than either of the preceding kinds. The after-treatment should be the same until transplanted to their flowering quarters; should there, however, be any bare spot of ground on the borders towards the end of August, some of the strongest might be selected to fill it up, allowing these plants to remain there for flowering. By so doing an earlier crop of flowers will be obtained, which would probably be useful for cutting. The chief points to aim at in the culture of Wallflowers are those of endeavouring to keep the plants as dwarf and sturdy as possible, and of never growing them in too rich a soil, nor in a shaded position if it can be avoided.

Silene pendula compacta, a beautiful companion to the Forget-me-not, should not be sown till about a month later, as it grows more quickly than many annuals; otherwise it should be treated in a similar way. *Pansies* for flowering early in the spring must be sown during June, and pricked off when large enough, as in the case of the *Myosotis*. They delight in a moist condition of the soil, but at the same time should be grown well exposed to the sunshine, in order to keep the growth as compact as possible. The best for sowing at this season of the year are the type known as "Cliveden Pansies."

Antirrhinums or Snapdragons, *Aquilegias* or Columbines, and the *Digitalis* or Foxgloves—all most useful and easily-cultivated plants—can be raised from seed, which should also be sown soon. The former of these would require to be transplanted, as previously recommended; the second could be allowed to stand over as sown until the following spring; whilst the latter should be sown where it is to flower, merely thinning out the seedlings to a fair distance apart when they become crowded. It is a good plan to sow the Foxglove indiscriminately, where it is not likely to get disturbed whilst the plants are quite small; later on, as the plants develop, there will not be any danger.

Climbing Plants.—These will now be growing vigorously where in good health, and therefore need more attention in securing and regulating their

shoots. The *Clematis* will well repay for any extra attention given to them now in distributing their young growths. If left to themselves, they will cling to each other, and become entangled together in such a way that it will be almost impossible to separate them without injury to one another. There will also be a gain when they are in flower, as that will be better distributed over the surface allotted to the growth of the plant, thus looking far superior to the neglected plants, with the growths and blossoms all huddled together in one incongruous mass.

Passion-flowers should have their growths trained rather thinly, enough to cover their space in a proper way, but no superfluous ones allowed; thus they will derive the full benefit of the sun, and later on flower better and more profusely. In the case of any that have been recently planted, the young shoots will need more looking to in respect to training than in the case of older plants which have filled up their space. The latter may be permitted to grow *au naturel*, with the proviso of not leaving them too thickly. The strong shoots of the *Honeysuckles* should be carefully preserved for another season's flowering, where there is room to secure them.

The *Virginian Creepers* will not need any great amount of attention; those which have reached their limits only need to have some of the growths, where excessive, cut away; this will chiefly occur with the large-leaved kind; those on the smaller variety can be cut when needed, and turned to a good account for arranging with flowers in vases. In the case of younger plants that have yet room for considerable extension, all the leading shoots should be secured by ties, or nails and shreds, and every endeavour made to get them to fill up as soon as possible. The young shoots of *Ivies*, where they have room to grow and extend, should be treated in the same way; the closer these and the last-named creepers are kept to the walls the better.

Wistaria sinensis will now be in its beauty; as soon as it has ceased flowering, a good number of young shoots will issue forth; preserve the strongest of these where there is any room, and remove the weakly ones. *Jasminum nudiflorum* (the yellow-flowering winter variety) should only have the weakest shoots thinned out; every care being taken of the rest, with no shortening allowed, for the next blooming season. *J. officinale* (the sweet-scented white kind), now or soon in flower, may be cut freely for the sake of its flowers, with a good length of stem; this will be beneficial rather than otherwise to the plant, as the shoots are produced in great numbers. The thinning out, whilst in flower, should be distributed equally over the plant, so that the other wood remaining has an opportunity of being well ripened. *Magnolias* will not need very

much attention, the chief point being to secure the leading shoots. The *Pyracantha Thorn* (*Crataegus pyracantha*), which produces such a fine display during the winter months with its brilliant scarlet berries, will now soon have set a fresh crop of young ones; these should be carefully preserved, and only that superfluous growth removed which is destitute of fruit, excepting of course any strong shoots which are required for covering bare places.

With regard to *Climbing Roses*, the advice previously given must still be followed, with the addition of thinning out weakly wood after it has flowered. All climbers will be benefited by occasional washings with either the syringe or garden engine, the latter being the most effectual when used carefully. This will be the means of dislodging insects, such as spiders and others, that congregate under the protection of the leaves and near the wall. Where the foliage of any is somewhat dense, with a good amount of young growth, some of the older leaves, and all that are decayed but lodged in the shoots, should be removed, so that no harbour is afforded for insects.

One caution in respect to climbing plants that are growing against the walls of the house, or any buildings with rain-water guttering fixed around the eaves, is necessary; it is that of not allowing any of the shoots in any way to choke the gutters and impede a free passage of water. Whilst writing this a case in point occurs to our mind, in which the walls of the upper rooms of one house in particular are much disfigured, the injury to which cannot be, in our opinion, assigned to any other reliable cause. Ivy will, if not closely looked after, force its way underneath the slates when allowed to grow away too freely at the top; thus in time the latter will become loosened or split, and the water admitted around the cornices of the rooms. On an old country house we remember, the ivy was allowed to run up the roof, and after a time dislodged the tiles; these, when taken off for re-arranging, opened up to view a mass of ivy underneath, weakened considerably of course, but not a desirable thing in such a place.

Rhododendrons.—These handsome flowering shrubs will be in their full beauty from the end of May onwards well into the month of June. If the plants are not thoroughly well-established ones, a little extra attention will be necessary during, and after, this period, when they are making their young growth. A fair top-dressing with good soil and manure mixed, or of rotten leaf-soil by itself, will greatly assist them from the time their flower-buds begin to swell; this will prevent the plants from getting so dry at the root as they would otherwise do, and should watering be necessary, as it may be in some instances, it will be much more effectual

after the top-dressing. The *Rhododendron*, when suffering from want of water, will soon give indications of its required need by drooping its foliage; after being watered this will quickly recover. As soon as the flower trusses have faded, they should be removed *carefully*, so as not to injure the young shoots that are pushing forth from the base of the same; this removal will prevent the seed-pods from swelling off and ripening, thus concentrating the energies of the plant in its young growth, which is most essential, so that the flower-buds for the next season may be set in good time before the advent of autumn frosts. Even well-established ones that are of good size should have the faded trusses picked off for the same reason, and from the point of good appearance also.

Hardy Azaleas.—These require nearly the same treatment as the foregoing, but do not usually suffer so soon for want of water, therefore a lighter top-dressing will suffice; remove the faded trusses, however, for the same reasons. When these plants have well taken hold of the soil, they often grow most vigorously—the yellow variety in particular; if any such have exceeded their proper limits, a moderate pruning, immediately after the flowering, would be advisable. Young growth will soon be made, and thus take off any naked appearance for the time being. Should any of the young shoots appear to be growing away too luxuriantly, it will be better to stop them; thus three or four will be obtained in the place of the one, and the plant be kept more symmetrical also.

Watering Shrubs.—In dry and warm weather this work must not escape attention, particularly in light soils, which, although easier to work upon with the spade, and accessible for that purpose at nearly every time when it is not actually raining, are not calculated to sustain the plants for such a length of time as those of a heavier nature. Freshly-made gardens and newly-planted shrubs are those requiring most attention in this respect.

Flower Beds.—The chief attention required amongst the newly-planted beds during this month will be that of giving all due care to watering, as advised in the work for May. The soil between the plants should be lightly stirred with a small rake or hoe about once every week, and all weeds removed whilst in a small state. Creeping or trailing plants will require occasional notice; as the shoots increase in length, keep them pegged down: besides covering the ground in this way, they will, by reason of the additional shoots afterwards made, flower much better. Remove any shabby or decaying foliage;

this will occur chiefly with *Geraniums*, upon which also due regard must be paid to regulate the growth by stopping extra strong shoots; any flower trusses that are all but exhausted, should be removed to make room for the younger ones. Some pinching of the points out of plants that are inclined to grow too tall, will be necessary; it does not always happen to be the same kind of plant, but if note be taken in each case early in the season, the effect later on will be considerably enhanced.

In a few instances some support by means of a small stick will do good service, particularly in the case of the *Calceolarias*, which should now be growing away freely. If planted out late in April, as advised, these will soon be a mass of flower; all the more need to note any want of support in time, or else after a heavy rain some of the outer shoots may be found broken down. *Dahlias*, as they increase in strength, must have the same attention; be careful, however, not to make the ties tight, or later on, as the growth still continues advancing, there will be the possibility of a fracture in the stem at that point during windy weather.

Should there be a few plants remaining after the bedding-out was finished, it will be just as well to take care of them, in case any of the others should die and require replacing. After all these are used up and still a few more required, resort may be had to the *Asters*, which can be transplanted remarkably well when of fairly good size. Continue to practise the instructions previously given anent hardy annuals and thinning out the plants. The tender annuals recommended to be sown last month will grow away rapidly with favourable weather; give support to any that may require it. "*Love-lies-bleeding*" will be sure to need it before many weeks. Established tufts of the common *Musk* will require keeping within due bounds, and not allowed to encroach upon the neighbouring plants, or it will not be much better than a common weed. Well-established tufts of *Lilies*, that have now got shoots of considerable length, should be made secure against any injury from sudden gusts of wind by a few stakes, before their flowers cause them to be somewhat top-heavy and then liable to be broken off.

Roses.—The earliest of the dwarf and standard *Roses* will soon yield a few flowers; the first few blooms will not perhaps be so good as one could wish, but nevertheless they are most welcome. As on the wall, so in the open ground, the old favourite *Gloire de Dijon* is one of the first to flower. In France, another well-known kind, will soon keep it company; its pale pink blossoms being a pleasing contrast to those of the first-named. Other kinds will quickly follow, but names need not be given now; it will, however, be a capital plan—if

the opportunity offers—to take note of those varieties that are most appreciated at any flower-shows which may be visited during the season; then, when the planting-time comes round, they can be added to the collection. A close watch will still need to be kept upon the green fly, and the syringe to be plied vigorously in every needful case. Even if only a few are seen, it is better to destroy the few, and easier, also, than if they are allowed to increase in number first. These syringings will also be of great benefit to the plants up to the time of the unfolding of the first blossoms. Should the weather be inclined to be warm and dry, one good watering at least should be given at the roots as well. If this can be in the form of a solution of liquid manure, so much the better; failing this, an artificial manure may be used by sprinkling upon the ground in sufficient quantity to form a dusting all over before the application of the water, then it will get carried well down to the roots at once. The developing buds should be closely watched, and any removed that are disposed to come deformed; this will sometimes occur where the rose-maggot, previously alluded to, has escaped detection until it has reached the bud, yet not injured it sufficiently to be observed.

If any mildew is detected upon the foliage, and this is easily discerned by the curling of the leaflets, measures should at once be taken to stop its course. For this nothing is more effectual than “flour of sulphur,” applied through a dredger or a muslin bag as soon as it is seen. A slight dusting at the outset, before it spreads, will often stop its course for the time being. It does not often occur during June, unless there is a prevalence of easterly winds, which, with nights rather colder than usual, are favourable to its development. The sulphur should be used either early in the morning or late at night, or after a shower of rain, so that it may adhere to the leaves and produce the desired effect as quickly as possible. In bad cases it will probably be necessary to repeat the application of the sulphur a second or third time.

If extra large flowers are the chief object in view, special means will be necessary to obtain them. This will mainly be done by sacrifice of numbers, through the requisite process of thinning, in order to produce them. Where clusters of three or more are showing upon the same stem, the weakest should be removed at an early stage in the growth; and the other one later on, before the bud bursts so that the colour can be seen. The strength will then be mainly directed towards these single flowers, which, with extra attention to the plants for water and frequent syringing, should result in much finer blossoms. These means have to be resorted to if the high standard of the flowers seen at the large

rose shows up and down the country, is to be taken as the object aimed at. It is better, all things considered, to take a medium course, merely relieving the plants where the amount of bloom showing is in any way excessive.

Some lovers of the rose may have noticed the blossoms semi-expanded and in the bud, which are to be seen during the season in such numbers in the florists' shops, possessing an appearance that is not natural to the rose as seen growing upon the plant. This is brought about by a skilful manipulation of the petals, each of which is taken between the finger and thumb and gently reflexed. By this means, what was but a bud just bursting is transformed into nearly the size of a full-blown flower, or only partially so, as may be deemed advisable. It is not a practice to be recommended; we only explain it in these columns so as to account for the difference in any well-known kind when the natural flower and the altered one are compared together.

Should any rose unfortunately die at the top, *i.e.*, the scion, above the spot where worked upon the stock, it is possible still to retain the latter, if there is a fair amount of vigour in it, to be eventually budded with another kind, and a fresh attempt thus made to build up a plant. Any suckers upon standard roses that are being pushed forth from the stock, should be rubbed off at an early stage, whilst it can be done with the hand. Those issuing from beneath the soil, either upon standard or dwarf bushes, should be pulled up or cut off before they attain any size. If allowed to remain for any length of time, these suckers will sap the very life's blood out of the plant; it is somewhat remarkable how quickly they gain strength when left to themselves. It is hardly possible to make a mistake in the case of dwarf roses respecting these suckers, the growth of the sucker sent forth from the stock being so different in its character, with prickles upon it that are far more formidable.

Vines.—As soon as the bunches are in bloom, which will be easily discovered by the perfume emitted from the flowers, the atmosphere should be kept rather drier and a trifle more air admitted, but in a cautious manner, and equally distributed, avoiding as much as possible any excessive inrush of cold air to such an extent as to rapidly lower the temperature. A gentle tap should be given to each bunch for a few days about noon-time, in order to better distribute the pollen, and thus secure the proper fertilisation of the berries. This little extra labour is well expended, inasmuch that thereby there will be a lesser number of small and stoneless berries. As soon as all are set and show signs of swelling, which will not take many days to bring about, a

little less air will be beneficial, in that it will assist the vines to swell up the berries more quickly, and be a slight gain in point of time in ripening.

The thinning of the berries in each bunch is absolutely necessary to obtain well-finished fruit. This, though a somewhat tedious process, is easily learned and acquired. A proper pair of scissors for the purpose should be obtained; these would have long handles and finely-tapered points. With these well manipulated a bunch is soon relieved of the superfluous berries.

Begin at the bottom of the bunch (having first procured a finely-pointed stick to hold the bunch steady whilst thinning, for on no account must the bunch be touched with the hands, or in very many cases it will be disfigured, this being caused by the perspiration from the hands) and work upwards until the top of the bunch is completed. The interior of the bunch requires more thinning than the outside. On close observation it will be seen that in many cases the berries are disposed in threes; one of these will often be in advance of the other two; remove the latter, therefore, and divert

the strength to the larger berry. Sometimes two are about equal in size; these in some cases may be allowed to remain, but not if there are too many of such. The illustration here given will be a guide in this respect as to thinning, and better exemplify the advice just laid down. On examination it will be seen that the inner berries are in most cases removed. Generally speaking, it is better to look over the bunches again about ten days later, in order to take away any small berries. By that time there will be a considerable advance in their size, hence the need of thinning early, all of which should be finished by the time the berries are of the size of small peas.

After thinning is completed, some of the lateral shoots will again need to be stopped; this will assist the fruit in swelling, and should not be omitted. At

this period the night temperatures should range at from 63° to 65° at dusk; when much higher than 65°, a little air should be left on at the top all night. This will cause the vines to become somewhat hardened; by which means they will better resist insect pests, and tide over periods of unusually hot weather with greater safety. When the foliage is thin and weakly, the sun has more power upon it; hence it often gets scalded and unsightly early in the season. The day temperature should, according to the weather, vary

from 70° to 80°; when hotter than usual, 85° will not do any harm, it will be better than admitting too much of colder air until the grapes are more advanced. Towards the end of the month, if the weather is dry, the vine border should have a good watering; give sufficient to penetrate well through the soil to the lowest of the roots. If the border outside has been provided with drainage by means of pipes, a watch should be kept for the water running out of the same after it has percolated the soil.

When it does this in a free manner, it may be assumed that sufficient has been given to last for some weeks to come. If any of the

border be inside the house, watering will be needful about once a week. The moisture arising from the inner border will be congenial to the vines themselves; thus damping down on frequent occasions will be dispensed with, as in the case of paving tiles forming the floor.

The Greenhouse.—The work here will, in a great measure, be a counterpart of that of the past month. *Fuchsias*, as they make more rapid growth, will need to be watered more liberally; any shoots that are growing too strongly should still be stopped, to equalise the distribution of the sap. *Liliums* will need close watching now, to see that no green flies establish themselves in the points of the shoots; if any are observed, give a dusting with tobacco powder. The stronger plants may, early in the



THINNING GRAPES.

month, be placed out of doors in a sunny spot. Put a piece of slate or tile under each pot, to prevent any worms from gaining access to the soil in the pots, where they will give trouble. The weaker ones should be left under protection a little longer, with more care bestowed upon their watering. The *Pelargoniums*, as they go out of flower towards the end of the month, should also be removed outside. After a few days they should be laid on their sides, so that they do not get any water at the roots; this will be the means of ripening them off before they are cut back for a fresh start. The tuberous *Begonias*, Ivy-leaved *Geraniums*, and other kinds of the same family, will supply the vacancy thus caused, and make a pleasing change. It will also be the means of giving room to those plants becoming too much crowded together. It is a great mistake to attempt to grow more plants than can be fairly well accommodated, but in nearly every case there will be a few periods when the plants must be stood rather closely.

The greenhouse should now be well ventilated in the daytime, and some air left on at night when it is not wet; even then, however, the side ventilators need not be closed. A free circulation of air will prolong the flowering period of plants, and render them less liable to be attacked by insects. The watering of all pot-plants ought to be looked into closely every morning, before the sun gains too much power; if well watered then, in every needful case, there will not be much harm done during the rest of the day, unless the weather is exceptionally hot, when another examination will be needful as the sun is declining. Of course, there are cases in which some plants require more water than others; experience on these points can be readily gained by observation. In any case where the plants are found to dry up very quickly, and cause trouble by frequent attention, it will be better to place a saucer underneath the pot, so that some water may be absorbed upwards.

Ferns.—These, if in pots, should be moved to the most shady part of the house, or so arranged as to be partially shaded by an over-growing plant. Avoid, as much as possible, exposing them to sharp currents of air at all times. A good proportion of new growth will now have been made; this will permit of the removal of some of the oldest and shabbiest fronds, a few of which may probably be affected by the brown scale, an insect to which many of the family fall a prey unless it is well looked after and kept in check. This would be a very good season of the year to purchase *Ferns*, more preferable than early spring or late autumn; in the former case they would be rather tender, and in the latter they would not have time to get adapted to their new quarters before the next winter season.

Cactus.—These should have the brightest position given them that is possible; they enjoy an abundance of light and plenty of air. Water should be given more freely now, but never to excess; especially in the case of any that have been fresh potted, as previously advised. Plants of any kind with fine foliage, as *Palms* and the *India-rubber plant*, should have their leaves kept clean by sponging; using water with a little soft soap dissolved in it, to remove the dirt and dust.

Cold Frames.—These, where not turned to account for the production of *Cucumbers*, as suggested in the work of the past month, can nevertheless be made useful in other ways. Many of the smaller plants from the greenhouse may be removed into such with advantage—tuberous *Begonias* that are of small size; little plants of scarlet and pink *Geraniums*; anything, in fact, that is not too tall, and that is kept during the colder season of the year in the greenhouse, will grow here very well. If it is not required for anything else, an early crop of *French Beans* may be successfully grown in a cold frame. Those who have no greenhouse, yet possibly possess a frame, can grow several plants in it at all seasons of the year. Through the winter and early spring it could be occupied with the *Auriculas*, a most interesting class of plants; *Chrysanthemums*, also, can be wintered therein. When all of these can be placed out of doors, other uses should be made of it—for striking cuttings of such things as *Roses* and *Pinks*, and for raising seedling plants of the herbaceous section, or for growing a few plants to flower the same season in pots, as *Balsams* and the shrubby *Calceolarias*. In one way or another it would be found an easy matter to fill it at all seasons of the year with something useful and attractive.

Chrysanthemums.—Under favourable conditions, and where the advice previously given has been acted upon, these plants should now be progressing in a satisfactory manner. With congenial weather they will grow quickly, and frequently need a fresh tie to secure the shoots against injury. To obtain dwarf bushy plants, the shoots may be pinched twice during this month—at the beginning, and towards the end. By the end of the month all of the plants should be potted into their blooming pots: every effort should be made to get this done by that time, so that they may be well established before the earliest flowers commence to show their buds. At this potting, the plants should be placed into pots of about two inches greater diameter than those out of which they have been taken: this will allow of an inch all round the ball for fresh soil. This latter should consist of the same ingredients as previously

advised, and must be rammed firmly around the ball of the plant. This firm potting is one of the most essential points to observe and carry out; it is productive of a much firmer and more sturdy growth. When the potting is completed, place the plants again in the same position, or farther apart if needful by reason of any increase in their size, and water rather more carefully for the first few days.

The Fruit Garden.—There will be several things wanting to be done amongst the fruit-trees during this month to keep them in good condition.

Newly-planted trees will still need to be watered during dry weather, and more copiously than earlier in the season. This is work that will amply repay for being done in a thorough manner; the trees will become much better established during the first year, with more favourable prospects of fruit as they gradually gain strength and vigour. A tree that is neglected, and allowed whilst in a young state to become stunted and impoverished, will only be a disappointment to its owner. Trees that are well established, and probably bearing a crop of fruit, will need to be regulated as to their growths. If any shoots are gaining too much strength at the expense of weaker ones, it will be a good plan to stop them by pinching out the point of the growths when there is room for future extension; otherwise it is a safer plan to remove them entirely, to make room for wood which will be of a more fruit-bearing character. In the case of trees that are trained against walls this regulation of the shoots is even more essential; on no account should a few luxuriant ones be allowed to monopolise the sap at the expense of the others; neither should any more growths be allowed to remain upon the tree than can be conveniently secured to the wall. Overcrowding of the shoots is a fertile source of failure. The wood cannot become ripened later in the year; thus eventually the tree becomes destitute and barren, with a quantity of wood in it that is of but little use. The foliage should always have room for its perfect development; for if this is not secured, the prospect of fruit is very remote.

Plum-trees against walls, and those even that are grown as bushes, if they are within easy reach, should, if they are swelling off an unusual number of fruit, have some of the least promising ones taken off. This will greatly assist those remaining on the trees to attain to a proper state of maturity, both in size and flavour. Plums will in some seasons show enormous crops of fruit, literally bearing down the branches; if these are not thinned at all, the next year's crop will be sure to be a much smaller one, if even any at all are obtained.

Pears are much more satisfactory when treated in a similar fashion, and probably even more so than in the case of Plums; a quantity of small fruit is not to be compared to a less amount of larger size and more perfect maturation. If, after thinning, the fruit there is still a heavy crop, it will be a great assistance to the tree if an occasional watering be given with some stimulating agent, as liquid manure or one of the artificial manures. When the latter is used, some caution in its application will be needful; from one to three or four hand-fuls will be ample, in proportion to the size of the tree.

Strawberries that were covered as directed in the work of the past month, will withstand a greater amount of dry weather than where the ground is exposed fully to the sun; yet one or two good waterings will be highly beneficial, and well repay for application up to the time of the earliest fruit commencing to change colour, after which period it is not desirable. As soon as the first fruits commence to ripen, and that of Cherries also, some means should be adopted of protecting them against the depredations of birds. For this purpose old fish netting of light make is a very good choice; but better still is the netting specially made for garden uses on a square mesh, instead of the diamond mesh of the first-named. That on the square covers more ground in proportion to its size and weight; consequently it does not press so heavily upon the foliage of the strawberries. Just prior to ripening, another light dusting with lime and soot will prevent so much injury from slugs and wireworm as would otherwise be the case where they infest the soil to any extent.

Apricots are often grown in country gardens; those who are fortunate enough to possess good fruit-bearing trees should give them attention now. The breast-wood, *i.e.*, the wood which is growing away from the wall and not required for nailing to it in any bare place, will need to be cut back moderately close. The fruit, too, if very abundant, should be taken off when small, and before the stone commences to harden; these young fruits are most useful for tarts. Those that are left to ripen should never be any closer to each other than nine inches from fruit to fruit.

Peaches and *Nectarines* should also be thinned out, but rather more than just advised; thin out any superfluous wood at the same time, and only leave sufficient to just cover the wall. These especially (and other fruits grown against walls) will be greatly benefited by syringings in the afternoon after a hot day.

Insects.—When these are troublesome, the syringe or garden-engine will have to be used freely. The

aphis or fly is the most troublesome in one or other of its forms. Where such is the case, the solution of quassia chips, as recommended for Roses (*minus* the soft soap for Peaches and Neectarines), will greatly help to keep it in check. If, however, it should continue to give trouble, the points of the shoots, where it mostly establishes itself, should be dipped in a mixture of tobacco water and that of the chips (made to about the colour of dark ale). This will not often occur if a frequent use of the engine or syringe be persisted in.

One of the numerous kinds of caterpillars is often found to infest *Gooseberries*, and if not quickly stopped by being caught by hand-picking, will in a short time strip the bushes to a mere skeleton of their leaves. If the old proverb of "A stitch in time saves nine" is in any way applicable to garden work, it applies in this instance with all its force. Those who have any *Gooseberry*-bushes that are well laden with fruit should commence to pick them early for tarts; this will assist the tree to ripen off the remaining fruit of a finer quality. In picking green *Gooseberries*, only those that are nearest the ground should at first be taken; all the lowest branches may be picked bare of their berries, for on these any fruit that is left to ripen will be rendered dusty and dirty by coming into near contact with the soil; they are also the first fruits, to which the birds will direct their attention, as soon as they are ripe enough to their taste.

Currants (red and white) should have the greater proportion of their strongest shoots shortened about two-thirds of their length, leaving those only which are required to keep the proper formation of the bushes. This will let more light and air in to the fruit, and be the means of assisting it to ripen a few days sooner.

Black Currants must not be treated in this manner, or the bearing wood of the next year will be taken away; for this bush bears its fruit on the younger wood, whereas the two former have their fruit on spurs which continue bearing from year to year.

Raspberries usually throw up several more young canes from the ground than are required for the following year, thus causing in some instances where they thrive luxuriantly a dense thicket of foliage. To avoid this as much as possible, it is better to thin out these suckers by removing those that are weakest and furthest away from the old stool. Thus the strength will be directed to the remaining shoots, these being increased in vigour, and a double advantage gained by the thinning-out process. The picking of all bush fruits is better done early in the day, or else late in the evening, when the weather is hot. For our own part, we think a point in respect to flavour is gained where the early morning picking is

followed; certainly the fruit is much firmer in the case of soft fruits.

The Kitchen Garden.—Celery.—Early in June, when the weather is overcast, with a prospect of rain soon falling, the crop of this useful vegetable should be planted out. If the plants have been prepared by pricking off into beds to keep them dwarf and sturdy, as recommended in the previous number, they will lift with a good amount of soil to each plant. This, when secured, is a decided advantage in their favour, as they start off into fresh growth at once, and no time is lost; neither is the plant weakened by removal. In most cases it is an essential point, just at this season of the year, to crop the ground as closely as possible. With *Celery* this may be done by planting it between the rows of Peas that come earliest into use; or in any place where there is room to run a row, advantage of the same should be taken, provided that it is not very much shaded by trees. Trenches must be dug out for the *celery*, about one foot in width, and to the depth of one spit, with the spade; after which some well-rotted manure should be placed in the trench to a liberal extent, and then mixed with the soil by digging it with a fork, which is better than the spade for this purpose, the ground being better broken up and the manure incorporated more effectively with the soil. The plants should be put out in the trenches at about nine inches apart, and rather deeper than they have been previously. Afterwards a good watering must be given, to settle them down, with occasional sprinklings every afternoon for a few days, until they are fairly well established. A slight dusting with lime along the sides of the trench will prevent injury from slugs; this should be done late at night or the first thing in the morning.

Brussels Sprouts.—This vegetable, always useful when in season, should be planted out as soon as the plants are large enough for the work to be done effectually. If taken up from the seed-bed very small, they either become a prey to slugs, or are almost dried up when the sun shines out very brightly. They should be grown in rows three feet apart, with two feet between each plant. There is no economy in planting any closer than this, for the object aimed at is good sprouts, and these cannot be perfectly developed when the plants are too much crowded; often, in the latter case, the stems are half bare, or possessing only very small sprouts, hardly worth the name. Drills should be drawn for each row, just as if a row of beans was going to be sown; in this the plants should be put out with a garden dibbler, which is generally made from the broken handle of a spade. Holes with this tool should be made six inches deep, and the plants placed in them

so that the roots touch the bottom; then, with the dibbler, the soil must be pressed firmly against the the plant, so as to leave no cavity next the roots. As in the case of other plants, a good watering should be given, with the usual safeguard against injury by slugs: in this case, however, the whole surface should be lightly dusted over about three times during the first fortnight. With the Sprouts at the distance apart we have advised, it is possible to take another intermediate crop off the ground before the first-named are of any considerable size. Lettuce can thus be grown, so can the dwarf French Beans, of which Osborn's Forcing is the best kind to choose, by reason of its compact growth; in each case one row only should be planted between every two of Sprouts.

Cauliflowers, which were planted out early in the spring, will now require attention for watering should the weather be dry; this will greatly assist the plants in perfecting their heads quicker, and make them tenderer also. The application of water to all kitchen garden crops is labour well spent during intervals of dry weather; by this we do not mean slight waterings just to moisten the surface-soil, but sufficient to penetrate down to the roots. This, combined with a free use of the hoe, as previously advised, will go a great way towards ensuring success even in the most unpropitious weather. After very heavy rain the surface of the soil becomes hardened by the formation of a slight crust; herein, again, the value of the hoe is clearly shown for breaking it up, and in so doing the air can better aid the soil in making it more congenial for root-action, as well as in bringing it into a better condition for receiving the next shower.

Continue to pay regular attention to other crops as may be necessary, not on any account overlooking the weeds, but pulling them up by hand where the hoe cannot be conveniently used. The thinning of Beet-root should be seen to when the young plants are from three to four inches high. It is not desirable to encourage the growth of large Beet; those of moderate size are far better, both for cooking and eating. From six to eight inches apart will be a very good distance. Onions can still be drawn as they are required, and Carrots commenced upon, taking them from the thickest spots. Cauliflowers for autumn cutting should be planted out (with two or three intervals between each planting, so as to form a succession) during this month; plant them rather closer than Brussels Sprouts, otherwise treat alike.

Early in the month the last sowing of Peas should be made, of kinds as advised in a former number. Those that are now coming on, and nearly fit for picking, will need to be closely watched in districts where birds are numerous. In the picking of Peas the mistake is commonly made of allowing

them to remain a few days too long upon the plants; the pods should be well filled, and feel firm to the touch, but never left till they begin to harden. By opening a few pods any one may soon find out on tasting them what their condition is. If left too long a time, the plants are weakened, and cannot perfect their later pods nearly so well. The same remarks apply with equal force to all kinds of Beans. We trust that note will be taken of these facts, for by acting upon the advice the flavour when cooked will be far superior. Towards the end of the month the last sowing of French Beans should be made; these, under favourable conditions, will continue bearing well until cut down by the frost.

The Cucumbers will soon be showing their fruit; for the first few weeks in particular, but all through the season if practicable, it is better to fertilise the blossoms artificially than to leave it to any chance method; much better formed fruit will thereby be secured. Do not on any account crop the plants too heavily at the start, nor is it well to do so at any time if fine fruit is the chief object in view. When more than one fruit shows at a joint, it is better to remove the weaker one than to allow both to continue growing. As the plants increase in size and vigour, more watering will need to be done, and another top-dressing with good soil given to the plants.

With the anticipation of hotter weather any sowings of Lettuce should be in drills, distributing the seed thinly. When large enough, where they are too thick in the row, some may be transplanted after a shower, the rest being allowed to grow on where they are. When transplanted during hot weather, Lettuce is disposed to run to seed if not watered well; hence the advantage of the foregoing method. Radishes will be all the better now for being sown in a rather shaded and moist spot, lasting longer in good condition. Tomatoes will now grow rather quickly, and need frequent attention for tying. Remove all superfluous lateral shoots, and concentrate all the vigour, as far as possible, in the one stem and the flower trusses. As soon as the first blossoms open, and when the pollen is abundant, it will be a safer plan to go over them on fine days with a camel's hair brush, and endeavour in this way to secure their perfect fertilisation. Asparagus should not be cut after Cauliflowers and Peas are in season, or the beds will be considerably weakened for another year. A dressing of salt upon the Asparagus beds, after cutting has ceased, will greatly strengthen the plants for another season, and be a considerable saving in labour later on, when weeds would otherwise give trouble, and need removal before they seed. The salt generally used is the coarse kind, known as "agricultural" salt in the trade, and is cheap enough for any purpose as a manure.

SKELETON LEAVES AND FIR-CONE WORK.

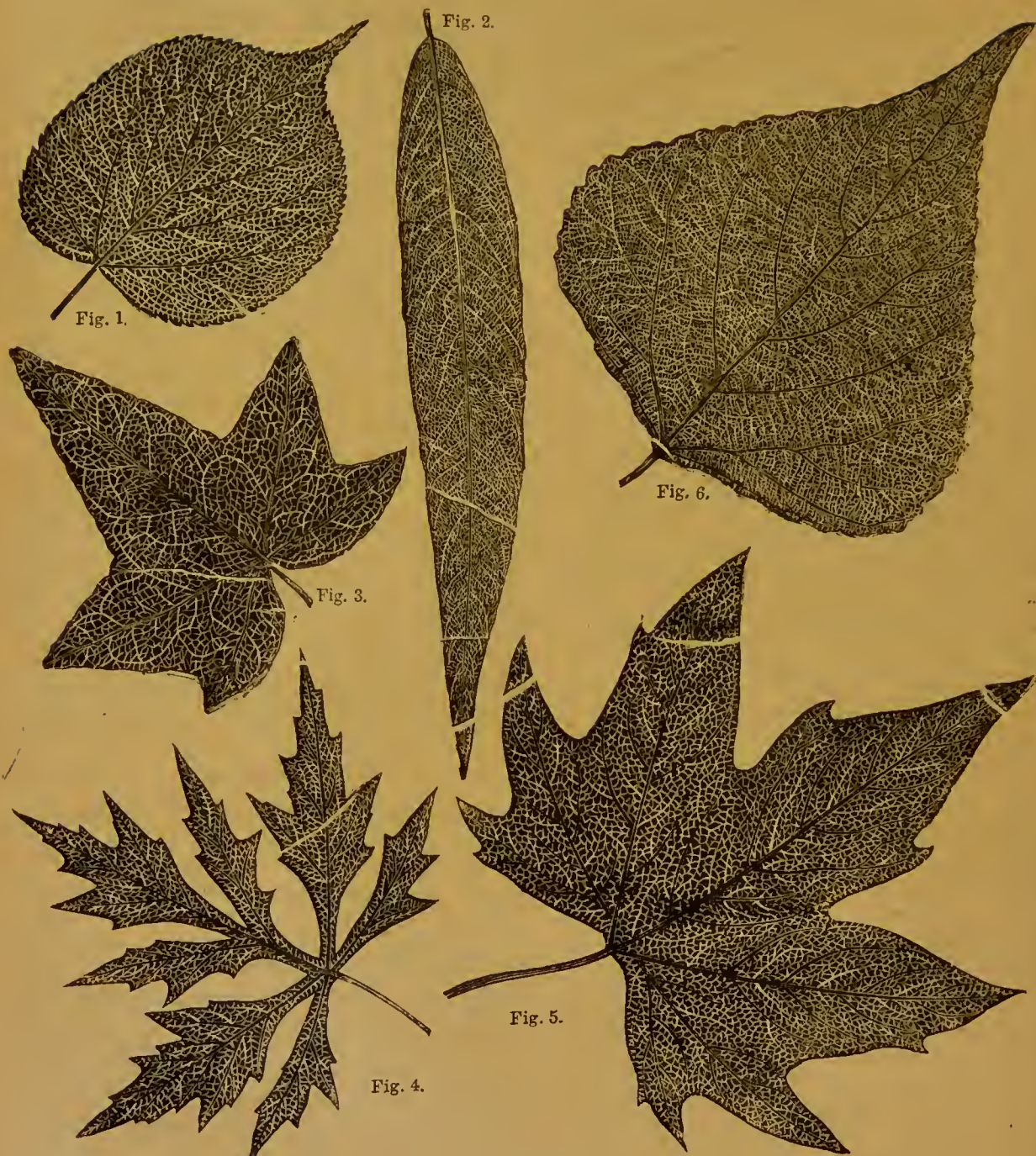
ALTHOUGH skeleton leaves in glass cases are no longer considered fitting ornaments for a drawing-room table, their peculiar beauty prevents them from falling altogether into disuse, and they are now much valued as winter dinner-table decorations, and for mounting into large groups for vases in the style of the well-known Makart bouquets. Some ladies like to use "phantom" leaves, as the Americans call them, for trimming evening dresses, and are clever at making them up into sprays for their hair. A garniture of this sort has the advantage of being uncommon if nothing else. Mounted on plush, too, they can be used to ornament a table photograph-screen or frame, and many other fancy articles upon which they are unlikely to be subjected to rough usage. If a sufficient number of leaves is available, they can be made up into very beautiful funeral crosses and wreaths; and have a far lighter appearance than those composed of flowers closely crowded together. They would combine well, too, with "silver" leaves, and those fluffy balls resembling thistle-down that are sometimes used for the same purpose.

Some amount of judgment is required in selecting the leaves, for there are many kinds which appear suitable, and yet are extremely difficult to manage satisfactorily, owing to the presence of certain oils and acids in their composition. As examples the leaves of the walnut, hazel, chestnut, and oak may be cited. These contain a quantity of tannin, which acts as a preservative and prevents the fleshy part from decaying readily. The best and easiest are those of the ash, lime (Fig. 1), vine, apple, willow (Fig. 2), hop, begonia, ivy (Fig. 3), maple of various kinds (Figs. 4 and 5), pear, sycamore, poplar (Figs. 6 and 7), mallow, box, elm, clover, the India-rubber plant, thorn (Fig. 8), beech, magnolia, and tulip-tree (Fig. 9). Leaves armed with sharp thorns and spines often look very effective amongst others in a group, but they have to be prepared in vessels specially set apart, as other leaves are apt to be injured by them. Amongst the plants with spiny leaves suitable for this purpose are the butchers' broom, holly (Fig. 10), rose, and that known as the maritime holly (*Eryngium*). Ferns and grasses are very troublesome to manage, owing to their size; they also become so exceedingly brittle under treatment that it is advisable only to bleach them. Seed-vessels, such as those of the poppy (Fig. 11), horse-chestnut, thorn-apple (Fig. 12), and bladder-cherry, should also be prepared in separate pans, as many of them are apt to injure the leaves, and generally require to soak for a much longer time. The worker should try experiments with other leaves than those mentioned here, the list given being necessarily far from complete.

The time for gathering the foliage varies according to the kind. The difficulty is to collect them when they are in exactly the right stage of development. If they are too full-grown, they will be hard and tough; if too young, they will be so tender that they will fall entirely to pieces in the process. July, August, and September are the best months in this country, where the summer is often late, but the time varies according to the kind of leaves. It is well to take a number of leaves of the same sort, as a beginner in the art will be almost certain to spoil half the quantity. Each leaf must be held up to the light and carefully overlooked, to see that there are no bruises, cracks, or blemishes which would be likely to spoil the skeleton.

There are two ways of removing the fleshy portions, and of uncovering the delicate network of nerves and veins. The first is the natural method, in which Nature—who often forms charming skeleton leaves in autumn—sets to work. This plan has the disadvantage of being somewhat unpleasant to follow, the smell especially being sometimes most offensive; but the general opinion is that the leaves are more perfect when thus prepared, and more durable. The second method requires the aid of chemistry, but although the substance of the leaves is very rapidly destroyed, the veins are apt to become brittle.

The Natural Method.—Large open vessels are required to contain the foliage, and are more convenient than smaller ones would be—owing, first, to the ease with which the leaves can be taken out when required, and secondly, to the fact of their supplying a larger surface for the sun to reach. The leaves must be divided as suggested above, and the pans filled with soft water. Rain-water answers very well. It is an advantage, when possible, to lay a large sheet of glass on the top of the pan, which must be quite full, and to put a weight upon it, so as to prevent the leaves from rising above the surface of the water. The water in the pans must not be changed during the period required for the thorough maceration of the leaves, but more may be added from time to time should it diminish much by evaporation. The contents of the vessels should occasionally be gently stirred with a smooth round stick. The pans must be placed where they will be exposed as long as possible each day to the full glare and heat of the sun. The question of how long the immersion of the leaves is to last is a very difficult one to answer, owing to the difference in their thickness and substance. It is quite certain that a fortnight will not be too long.



VARIOUS LEAVES.

At the end of that time some of the foliage may be removed and tested, to see if it has become sufficiently decayed. Great care is necessary in lifting the leaves from the pan, and it is as well to slip a piece of glass (a glass spoon answers admirably), or a small china plate, under the special leaf required, so that it is, as it were, stranded upon this dipper. An old tin fish-slice is an excellent tool to use, as it allows the superfluous water to drain off easily.

Hold the stalk of the leaf down on the glass, or china plate, by placing the thumb of the left hand upon it, and immerse all in a basin of clean water. Continue to hold the leaf on the plate, and gently rub it with a finger of the right hand, to find out whether the fleshy portions are soft enough to come away easily. If not, the leaf must be returned to the pan to soak again. Some of the leaves may be found to be quite sufficiently macerated, others only partially so. Those

in the latter stage should be placed in a fresh pan with clean water, and left to soak for another week or fortnight. Should any be found to have become much broken or injured, they must be thrown away at once; if they are only slightly harmed, they may be reserved, on the chance of being useful if partially hidden by other and more perfect specimens.

Those that are quite soft must be attended to

stream of water sideways over the leaf, to cleanse it from the loose pieces of flesh. Then put the leaf in water, and turn it over so that the other side is uppermost. Stretch this on the glass dipper, and treat it in the same way, holding the leaf up to the light occasionally, to see that it is not at all broken. The fleshy portions will soon become rubbed off, but the worker must be very careful in using the brush that she is not too vigorous, or she will soon wear the



VARIOUS LEAVES AND SEED-VESSELS.

as soon as they are taken out of the macerating-pan. They must be placed in a dish of clean water, and very gently moved about to cleanse off all the loose particles of flesh. The glass or china dipper is next required, and, a leaf being stranded upon it, is held under the surface of the water. The leaf is then "dabbed" (no other word will do) with a brush; a camel's hair, paint, bristle, or tooth-brush being used, according to the substance of the leaf. The softer the leaf, the softer must be the brush; and a good tooth-brush will be found most generally useful. It is advisable occasionally to run a thin

leaf into holes. The leaf must be dipped into water every now and then, to rinse off the pulp as it becomes loosened. The skeleton should then be laid either between the folds of soft old linen, or between sheets of blotting-paper, and left until quite dry. It must then be taken out, and placed between the pages of an old Bradshaw or catalogue, in order that it may be kept flat until required for mounting. While the leaves are wet, they must never be laid on a table or any other smooth surface, as they will be likely to stick to it, and become broken when any attempt is made to remove them. Even when

they are to be taken off the glass or china dipper, they should always be floated off under water. Leaves that have chanced to lose their stems during maceration need not be discarded if they are perfect in other respects, as there is not much difficulty in contriving artificial stalks for them.

Chemical Method of Making the Skeletons.—This more rapid manner of making phantom foliage will be preferred by active-minded workers, who find the long period of maceration required in the other process too tedious. Care here is needed to get the materials in the correct proportions. The following is the usual method of preparing the fluid:—Dissolve 5 ounces of common soda in a quart of boiling water, and when quite melted add 2 ounces of slaked quicklime; let the mixture boil for twenty minutes. Set the solution aside, and when it is cool and has settled, pour the clear liquid off into an old saucepan. Put in the leaves, letting them stew gently in the liquid for about an hour; add boiling water as the other boils away. This mixture must not come in contact with the hands if there should chance to be any crack or sore place upon them. As soon as the leaves are soft and pulpy, they must be taken out of the liquid in the manner before described, put into fresh water, cleansed, and laid aside to dry and press, just as in the other process.

Bleaching.—The next operation is that of bleaching, which may be effected in several different ways. The most convenient is by the aid of chloride of lime. The strength of the solution must necessarily vary according to the texture, size, and thickness of the foliage. An average proportion is one tablespoonful of chloride of lime to a quart of water. It is a good plan to bleach the coarser leaves in a strong solution, and to dilute the same fluid for the smaller ones. If too strong, the leaves will become brittle, and break readily. Let the lime become thoroughly dissolved in the water; when settled, pour off the clear liquid into a glass dish, lay the leaves in it, and set them in a dark place for a day or two. If the mixture is used directly the lime is dissolved, a few drops of vinegar must be added, and the foliage left in it only about a quarter of an hour. It is a good plan to put the leaves into the vessel with the stalks downwards, for, as the mixture is stronger at the bottom than at the top, the thicker portions of the foliage will be "done" in about the same time as the thin portions at the top. The glass vessel must be covered at the top, and the contents frequently looked at, to see if they are sufficiently white. If left too long, they will be so brittle that they will fall to pieces

when touched. Seed-vessels should be treated in a separate glass to the leaves, and they usually require quite double the amount of chloride of lime.

The following is also said to be a very good bleaching fluid, but is less well known here than in America:—Mix 12 ounces of carbonate of soda with 6 ounces of chloride of lime and 3 quarts of water. Melt the soda in a pint and a half of water over the fire, then stir the lime gradually into a little water, rubbing down all the lumps, so that it is smooth and creamy. Stir in the rest of the water, and leave this until it settles. Pour off the clear part, and turn the remainder into a muslin bag to drain, putting a little more water to it from time to time. When there are about two quarts of liquid, stir in the dissolved carbonate of soda, mixing it thoroughly. Let this filter through a piece of blotting-paper till five pints are ready. The liquid thus obtained should be kept in an opaque vessel, and be well corked. When required for use, it should be mixed with from three to six times its quantity of soft water, according to the texture of the leaves to be bleached. When the skeletons are removed from the bleaching liquid, they must be thoroughly washed in a basin of tepid water, and then well dried—either in the sun, or in a room in which there is a good fire. They must be carefully overlooked, and any inequalities in the bleaching touched up with a fine paint-brush full of Chinese white. They should then be put into books to dry and press, and must be left there till needed for use.

The washing after bleaching is a highly important matter, for, should it be improperly done, the leaves will not keep their colour, but will turn a dirty-brown hue, not by any means to be admired. When they are quite dry, any leaves that have lost their stems must have artificial ones fastened to them. These are made of very fine wire covered with tissue-paper, or of coarse crochet cotton stiffened with gum. Lepage's fish glue will answer perfectly here, and will not be visible, provided that a sufficiently minute quantity is used. An amateur worker is always apt to load on gum or glue, under the impression that the more used, the tighter will it stick. If she considers the matter a little, she will soon see that the smaller the quantity of glue used, the closer will the two surfaces cling together. The artificial stems should be glued on the wrong side of the leaf, and should start from a point just below the tip. They must vary in length according to the way in which the leaves are to be mounted.

To Bleach Ferns.—It is scarcely possible, unless the worker be possessed of great experience,

and the utmost deftness of touch, to do more with ferns than to bleach them, owing to their extreme delicacy. Only the finer kinds should be used, not the hart's-tongue and other strong sorts. They must be gathered rather later than other leaves, and should be chosen after the spores have appeared on the back. They must first of all be dried by placing them between sheets of blotting-paper, and under heavy weights or books. The paper must be changed once or twice a week until the fronds are perfectly dry. They will be found so brittle that great care will be needed in moving them, and they should be handled as little as possible.

The proper proportion of the bleaching fluid for ferns is one tablespoonful of chloride of lime to two quarts of water, and the specimens will need careful watching after they are placed in it, for fear they should become too crisp. About two days will be sufficient if they have been immersed in the clear fluid after this has been poured off. The long fronds will probably need curling round in order to get them into the bleaching-jar, and very possibly one or two will snap asunder during the operation. If this should happen, no particular harm will be done, as the worker, provided she is tolerably clever with her fingers, will find no difficulty in joining them again. Fern fronds and similar delicate leaves are more apt to be rendered rotten if any particle of the chlorine is left on them than stronger and firmer ones. It is therefore advisable to leave them for two or three hours in tepid water, which must be constantly changed, in order that they may be perfectly cleansed. When they are ready, they must, like other leaves, be dried between loose sheets of blotting-paper, and set aside to press. In laying them for the first time out on the paper, every tiny crumple there may be in the leaflets must be carefully smoothed out, and the paper drawn over them as they are flattened, so that they are straightened out at once, before they have time to curl up again. If they chance to have adhered to the blotting-paper when the time comes to mount them, they will assuredly become utterly spoilt if any attempt be made to peel them off; the paper must be gently insinuated from the back of the frond, aided by slight pressure with the finger.

It is a good plan to include a few long stems, without any leaves upon them, in the bleaching-jar, as they will be useful by-and-by, when the time comes for mounting the foliage in groups and bouquets.

Mounting the Leaves for Bouquets.—

Mounting and grouping the leaves must perforce depend upon the purpose for which they are to be used. Most of the foliage here referred to is sturdy

enough to enable a wire stem to be attached to it, but ferns will soon curl up if they are only bleached, unless they are laid perfectly flat and fastened down with paste.

We will consider first that a large group, suitable for a vase, is desired. Choice must first be made of a straight strong twig, so firm that some of the other leaves and sprays may be tied to it without causing it to bend. Some imitation twigs must also be contrived of white silk-covered wire. The first twig must be painted with white paint or enamel: the second or false twigs will not need painting if the silk with which the wire is covered matches the other branch sufficiently well; if not, this too must be covered. The wire branches need not be nearly so long as the centre one. Sometimes, by careful search in the hedges, branched twigs suitable for the purpose may be found all ready to hand. They should be like a miniature tree in shape, with a central stem, and many smaller sprays radiating from it. Should they be too thick and close, it is easy to cut some off.

The arrangement of a group is greatly dependent for its effect on the artistic taste of the worker; hence the utmost that can be done on paper is to make a few suggestions, leaving her to fill up the inevitable omissions according to her own fancy. The centre stem must have the tallest spray tied to it, near the top, to form a good background for the smaller ones. The best way of fastening the foliage is to use fine, soft, but strong white sewing-cotton, which is wound round the stems, and afterwards lightly touched with glue to prevent it from becoming unwound. The glue will probably leave a slight stain upon the stem, which must be touched up with white paint, lest it should be visible when the group is finished. If wire stems are required for the next sprays, they must be first bent to the necessary angle, bound to the centre as above described, the sprays then being tied on with the cotton. The wire may readily be bent into shape after the leaves are placed upon it. By the help of the wires which branch out laterally from the centre stem, other perpendicular ones may be added. These must be affixed to the bottom of the stem, then bent out at a gradual slope, and fastened where possible to the side stems. In this way a sort of skeleton or framework is made of the bouquet, to which the foliage may readily be fixed. It is not always possible to keep leaves of one sort upon their own particular stem, but they must be varied and mixed to suit the general appearance of the group. It is advisable to put the lighter leaves towards the top, the heavier ones at the lower part of the bouquet, and to choose for the background leaves which have naturally long stems of their own. Grasses, too, should be kept

towards the back, to form a sort of light background for the more substantial portions. They will require tying to the lower part of the centre stem, or to one of the added wires, if there happens to be one in a convenient place. When all the leaves are made up, the ends of the wires must be finished off with narrow white ribbon, which is tightly twisted round them to make all tidy. The bouquet is then ready for use.

Dinner-table Decorations.—The legendary "skeleton at the feast" has of late been frequently represented at fashionable dinner-tables by phantom leaves, which, in spite of the unwelcome train of thought they might suggest, have a pretty enough effect. Their arrangement, when required for this purpose, should be managed in a slightly different manner to that followed when they are to be simply placed in a vase; as they should, to look really well, be mounted on a flat round base, which is stood upon a sheet of looking-glass, the edges of which are concealed by a rim of plush, upon which single leaves are laid. Such a group as that in Fig. 13 would serve admirably for this purpose, as, although a certain plan is followed in its arrangement, the effect is by no means formal. A round wooden stand with a slightly-sloping edge, covered with plush or velvet, is an excellent foundation for the leaves. They are sold as stands for lamps and vases of flowers, and a good-sized one may be had for about half-a-crown, ready for use. If it is not convenient to buy one, any handy man should be able, at a small expense, to cut out the number required; and they can, with the help of Lepage's fish glue, soon be covered with plush. The stand when covered must be set aside until the glue is dry, or the plush will become disturbed when the leaves are being arranged. Get a strong stiletto, make it red-hot, and bore a hole in the exact centre of the stand. The hole must not be less than half the thickness of the wood in depth, but must not be large in diameter. Add a circle of some five holes round the centre one, about half an inch from it, then a second, and even a third beyond that, should the size of the foundation allow of it. This is not likely to be a sufficient number of holes, but others are easily made as the work progresses. A tall and regularly-made spike or spray of leaves must be chosen for the middle, the end of the stem dipped in liquid glue, and pushed into the centre hole as far as it will go. If it should happen to be too small for the hole, some cotton-wool—a very small quantity will be required—must be gently insinuated, with a large pin, into the hole beside the stem. This will steady it, and there will be sufficient glue at the end of the stem to hold

the wool in place. The remainder of the sprays will probably require making up of various kinds of leaves, fastened on to a wire or natural stem, and must then be pushed into their respective holes in the same way. They must not be so tall as the centre spike, and must be so arranged that they slope gradually down as the outside of the group is reached, until the last set, perhaps, consists of one handsome leaf in each hole. Any leaves that have met with slight injuries during the process of bleaching and macerating may have their imperfections concealed if they are arranged towards the middle of the group; but it is a pity to use any but perfect specimens, unless there are insufficient without them.

Smaller groups and sprays of leaves will also be required for the decoration of a dinner-table. The groups can be made on exactly the same principle as the large ones, but fewer leaves and shorter stems are needed for them. The sprays are made on a wire foundation, upon which the leaves are so arranged that one side can rest quite flat upon the table. They are usually laid about among the folds and round the edges of the slip in the centre. A dinner-table decorated in this manner would be incomplete unless the menu and name-cards were ornamented with skeleton leaves to correspond. The foundation card should be either dark blue or crimson, if a colour is preferred; but the leaves have a more uncommon and very beautiful appearance when laid upon a silver background. Only the finer and smaller kinds of foliage are suitable for this purpose. The leaves are lightly touched on the wrong side with paste, and laid upon the card to form as graceful wreaths as possible, or small and not too heavily-grouped sprays. They must be set carefully aside to dry beneath a heavy weight, and between several folds of soft old linen. Christmas cards are made in much the same way.

In making up skeleton leaves, great care is necessary to avoid breaking the foliage, and the leaves should be handled as far as possible by the stalk only. The use of a small pair of forceps will be found to save them from many bruises and rents.

Funeral Crosses and Emblems.—Crosses and wreaths require making up upon a wire shape, which must be first of all covered with moss, or with that peculiar whitish lichen so much used by florists for the purpose. The leaves must all be provided with wire stems, which are tucked into the moss, and tied down here and there where necessary. Some workers find a difficulty in using fine wire for such a purpose, but white crochet cotton may be employed instead, if care be afterwards taken to conceal it among the leaves. Another plan is to use a strong wire shape without any addition of moss at all. If a cross is to

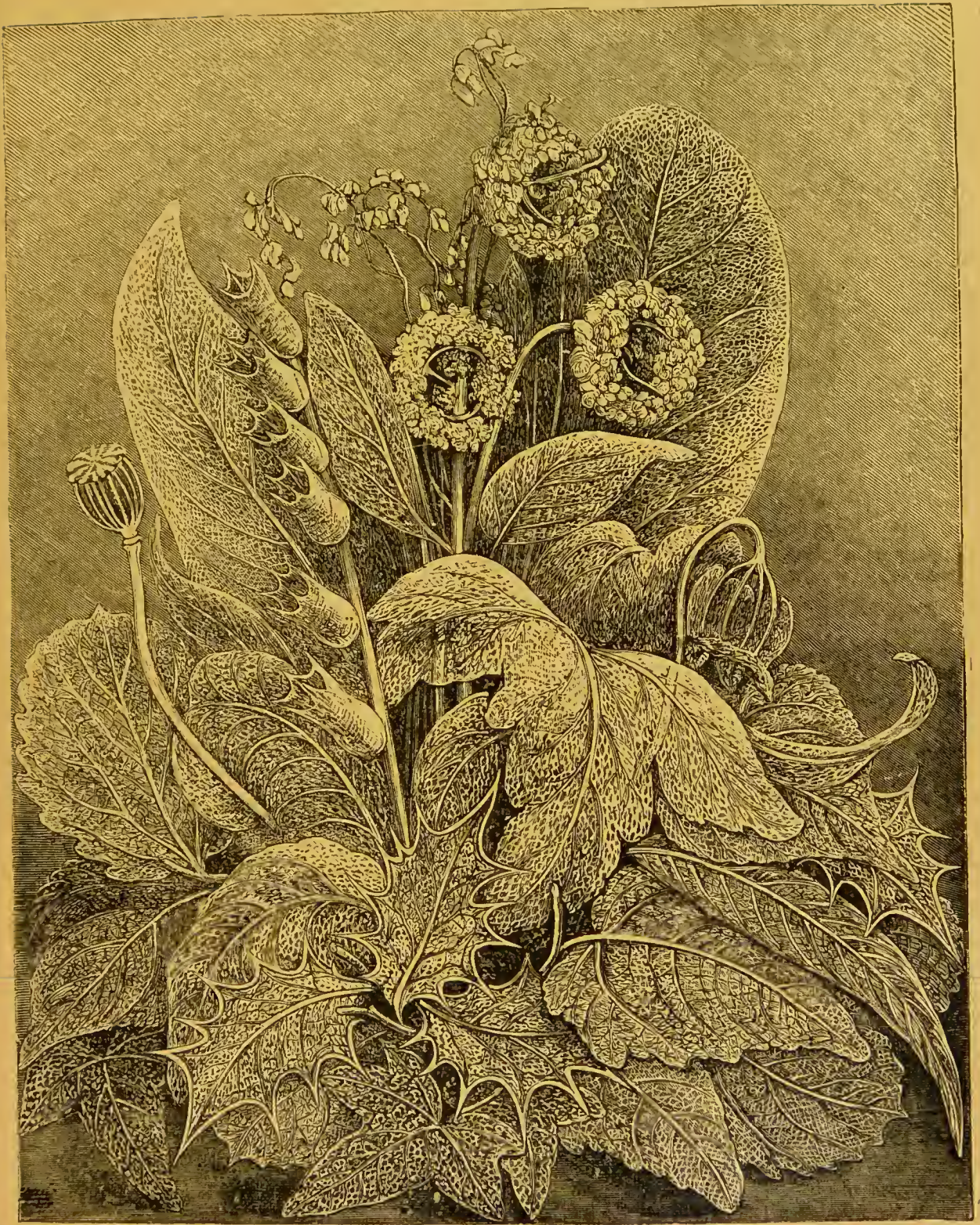


Fig. 13.—BOUQUET OF SKELETON LEAVES.

be covered, the leaves must be fastened on at the ends of the arms first, leaving the middle to be finished off with a bunch, or group, of leaves and seed-vessels.

The most popular wreaths just now are oval in shape, and are commenced at the top—the narrowest part—with one leaf. Below this, two are tied on, and

are so placed as to hide the stalk and fastening of the first one; beneath these, again, are three leaves and some sprays of light grass; and so the wreath becomes thicker down each side till the bottom is reached, where a large close group of leaves, seed-vessels, and any good-sized sprays are placed.

Fir-cone Work.—Many people are naturally clever at turning unconsidered trifles to good account, and exhibit with much pride holders for pampas grass and bulrushes, deftly fashioned out of the straw covers in which wine-bottles are packed, or footstools fearfully and wonderfully made of three or four preserved meat cans. Fir-cones, oak-apples, acorns, and such spoils from the woods can be utilised for the decoration of many small articles that are useful in the home; but they lose their beauty as soon as any attempt is made to torture the beech-nut husks into a clumsy semblance of moss rose-buds, or to wire the fir-cone scales or acorns together, in the hope that they will pass muster as carved hyacinths or as grapes. The effect of the various articles that may be thus decorated is far more satisfactory when the cones and twigs are left in their natural state, a coat of varnish being all that is necessary as a finish.

Materials for Fir-cone Work.—Many of the prettiest groups of cones, acorns, and twigs, are mounted merely upon millboard, but, as the cones are rather heavy, the millboard is very apt to become drawn out of shape. For this reason it is far better, if the work is to be really good and substantial, to use wood as a foundation for it. There is, nowadays, such an infinite variety to be found amongst the cheap wooden articles prepared for amateur artists to exercise their skill upon, that there can be no difficulty in selecting something available for the purpose. Varnish, glue, enamel, and the brushes for applying them, a hammer, some fine tacks and gimp pins of various sizes, some ordinary steel pins, a wire cutter, and a sharp penknife, are the simple tools and materials required. If the foundation is to be eard or millboard, a stout needle and some strong black thread will likewise be needed. Many workers advocate the use of fir-cones only; but if variety is preferred, beech-nuts, acorns, sweet chestnut husks, oak-apples, nuts of various kinds, the prickly acorn cups and acorns of the Turkey oak, larch twigs both with and without cones, oak-leaves, and some lichens, are all useful. The cones, acorns, and oak-apples, require but little preparation to make them ready for use. Should the stalks fall off, they must be carefully glued on, and the acorns laid aside until the glue is perfectly dry. A certain proportion of the acorns may be allowed to fall out of their cups, others

must be glued in. Some of the fir-cones may be stripped of all their scales, others must be left in their natural state. Sometimes, when they are first picked up, the scales are too wide open for beauty, and are not so regular in appearance as usual. If they are kept for a day or two in a pan of water, they will close up again as firmly as when they were on the tree, and when dry will be ready for use. The varnish with which they are coated when the work is finished, will prevent them from becoming so wide open again.

Early autumn is the best time for collecting all the treasures required, for then the cones will not have lain long enough on the ground to become damaged by squirrels or mice, and the larch and other twigs will not have grown so woody that it is impossible to bend and twine them about. A touch of glue at the junction of the cone and the twig will keep them together; indeed, it is advisable to add this, whether they show signs of separating or not, as they are very likely otherwise to become broken while the work is in progress. When some of the twigs are first gathered, it will be probable that some of the young and green buds are still adhering to them. These will soon become dry if the sprays are laid aside for a day or two, when they can be easily removed.

To Ornament a Picture-Frame.—Those articles which have a perfectly flat and smooth surface are far more easily ornamented with cones than those—such as brackets—which have several curves to be filled in and covered. Hence a flat, oval, or round picture-frame is as convenient an article as possible for a beginner to work upon. A coat of brown paint or enamel must first be applied, and must be of the same colour that the cones and twigs will be when the work is finished. Staining may be used instead of paint, but some workers prefer the frame to be of some decided colour, such as greenish-blue or coral-pink, and they paint the cones all over with this tint as a finishing-touch. It is, however, far better taste to use brown enamel or paint, and to keep the ornament brown also; whatever plan is to be followed must be decided upon before the cones are attached to the foundation.

Attaching the Cones.—While the wooden frame is drying, the cones and twigs may be sorted out, according to their sizes, in a number of shallow boxes or trays. A quantity of the scales that have been stripped off the cones should be taken first and arranged round both inner and outer edges of the frame, so that they project for about half their depth beyond them. A small gimp tack will be needed to secure each scale, and they must be so

arranged that they are as regular as can be, no one being further beyond the edge than its fellows. Now some long and rather slender fir-cones should be taken and glued lengthwise upon the middle of the frame, about two or three inches being left between each one. They must be made to follow the curves of the frame, as far as they will do so. It is often possible to cut these large cones in half lengthwise, when it will be found much easier to attach them to the wood, as there is, as it were, a larger field for the glue, and they can be fastened down more firmly. Either glue or the tacks may be used for fixing the small acorns and branchlets, according to convenience. In some places it will be found almost impossible to use a hammer, as it will probably break off some of the other pieces. Brown sealing-wax is sometimes handy for attaching stray stalks, as it is easy to make a bed, as it were, of the wax, perhaps in a small space between two or three groups of acorns, and to push the end of a stalk into it. As the wax hardens, the stalk becomes firmly embedded in it, and it will be quite invisible when the work is finished. It is not possible to give minute directions on paper for grouping the sprays and cones, for this must of necessity be left to the worker's own taste and judgment. They should be arranged just where they will show to the best advantage, and where they will fill up spaces successfully and hide the wooden foundation of the frame. The main group must be placed towards the lower part, no special pains being taken to get the arrangement mathematically exact and alike on each side. The less formal, the better the effect. The larger pieces must be nailed on, the smaller ones will be held down quite securely with a pin. This must be driven in with the hammer as far as it will go, and the head then nipped off with the wire cutter. Small pieces can be glued on, more especially when they have one flat side, or when part of them can be cut away so that they rest flush with the surface of the wood.

If the imitation of carved wood is specially

desired, the largest cones, acorns, and oak-apples must always have a portion of the under surface cut away. They must then be glued down closely to the wood, so that they stand up in moderately high relief instead of being much raised above the surface on their own stalks. This will be better understood if a good piece of wood-carving is at hand to be studied while the work is in progress. Some of the prettiest frames are those made entirely of the cones and stems of the larch.

These should be bent about and fastened with pins down to the frame, so that they twine and interlace over it. As the wood-work is visible between the twigs when they are thus arranged, colour may be used, and one of the most satisfactory methods of arranging a frame of this kind is to paint the wood-work dark or light brown, and to silver or gild the cones and sprays according to fancy. A very good imitation of metal work may be obtained in this way.



Fig. 14.—BRACKET PARTIALLY COVERED WITH FIR-CONES.

How to Ornament a Bracket. — Another manner of doing the work is to cover the wooden article entirely with the scales that have been stripped off the cones, before adding the acorns and other groups. A bracket thus covered is shown in

Fig. 14. The scales are arranged so that they overlap, like fish-scales, each one hiding the upper part of the one below it. In the bracket illustrated here, there are two rows of the scales which stand up and form a finish round the edge of the shelf. It will be found that glue is quite sufficient for attaching the scales to the framework, unless the worker really prefers—and many people do—working with a hammer and nails. The large cones and twigs are then fastened on to the bracket as fancy may suggest. It is advisable to arrange an informal wreath just below the edge of the shelf, much as shown in the sketch, and above the group of cones which forms the lower part of the bracket to place a large bold bunch of cones and acorns with side sprays trained up beyond it informally on each side. It must be remembered

that every acorn, every oak-apple, and every twig, must be fastened down separately, for the slovenly plan of tying them together into small bunches, and so nailing on half a dozen at once, cannot be too severely condemned.

To Finish the Work.—When once the acorns and cones are fastened on the bracket or frame, it

the work will not bear close inspection; while these lumps will catch the dust, and become even more conspicuous as time goes on. When the varnish has been successfully applied, the frame or bracket must be put aside in a safe place until dry. If possible, it should be stood beneath a glass shade, so that no dust can stick to it while still moist. Sometimes it is considered an improvement to tip

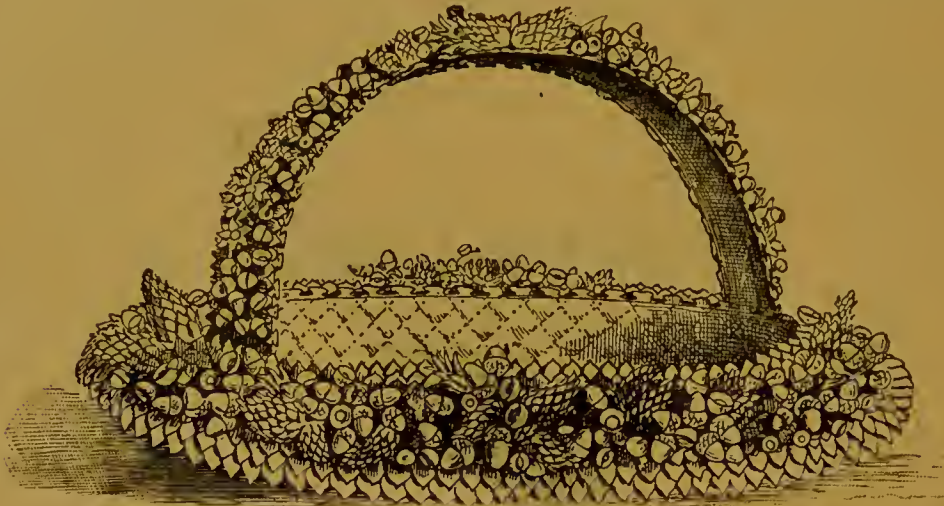


Fig. 15.—BASKET COMPLETED.

must be put away until it is quite certain that the glue is perfectly dry. Then the frame must be carefully overlooked, inch by inch, to see that none of the sprays are loose. All defects must now be

the scales of the cones, the ends of twigs, and the tops of acorns, with touches of gold paint, but this is scarcely necessary. The general effect is decidedly better without than with these additions.

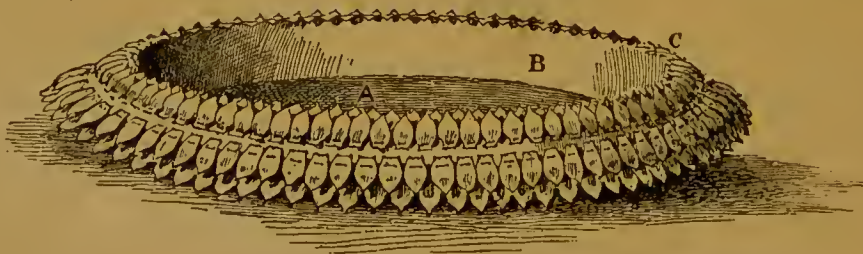


Fig. 16.—FOUNDATION OF BASKET.

remedied, as this cannot well be done after the work is varnished. If the worker has decided to colour the cones, she must use a small and rather stiff brush, and must take it well into all the nooks and crannies, leaving none untouched. If it is to be simply varnished, the same plan must be followed, but, for the smaller erevices, a camel's-hair brush will be found more useful than a stiff one. It is better to lay on two thin coats of varnish than one thick one, as if there are any drops of varnish, or if it has collected in any one place more than in another,

Flower Baskets.—After making several large pieces of work, such as picture-frames and brackets, it very often happens that there is an immense accumulation of the smaller cones, tiny acorns, and short twigs, which were either unsuitable for, or were cut away from, the more important work. For small articles these are, however, quite as useful as are the other and larger cones. In Fig. 15 is shown a pretty basket, suitable for holding a shallow pan filled with low growing ferns or other plants. This is merely made up upon a foundation of millboard,

which is painted brown, if it be not of that colour already. It is probably easier to do this than to cover it with brown paper, but the worker will soon see which plan she prefers. The eardboard is first shaped into a large round or oval, and out of the middle of this is cut the flat piece *A*, which is to serve as the bottom of the basket. A straight band is next required for the sides, *B*. (*See* Fig. 16.) This must be about an inch and a half wide, and long enough to set easily round the edge of the oval shape that was cut out of the large piece of eard. These three pieces must now be sewn firmly together. The piece for the side (*B*) is joined at the two ends, and fastened firmly round the bottom of the basket, while that intended for the rim (*C*) is sewn along the top edge of the side. This margin or rim may be gently bent down, so that it is slightly eurved all round the edges, and does not stand out straight and formally.

The rim of the basket must be covered first with the scales that have been stripped from the largest eones. Each one is stitched on separately, and projects quite half an inch beyond the edge. Two rows pointing in each direction will probably be enough, as the space left between them in the middle of the rim will be covered up with a wreath of the eones and acorns. The more variety there is in these, the better will be the appearance of the work; and the pieces chosen must be all much the same in size, no one standing out in undue prominence from the others. The eardboard must be entirely covered, and the worker will soon find her ingenuity taxed in discovering different ways of doing this by tucking in a little twig, an acorn cup, or the stem of a fir-eone from which the scales have been removed. The handle can be quite satisfactorily made of a band of bonnet wire covered with brown paper, or of millboard stiffened on the under side only with wire. If it is narrow, one row of

scales at each edge will be found quite sufficient for it, and the acorns must be sewn along the middle, as already described. Still smaller pieces will be needed for the handle than those used for the lower part of the basket, but just in the centre a few of a larger size may be added, to break up the formality of the arrangement. The work must, when all the wreaths are finished, be carefully varnished in the usual way, and set aside to get thoroughly dry. The lining of the basket with either quilted satin or leather paper, according to the purpose for which it is to be used, is the next part of the business. The material is simply cut into the necessary shape, and glued into the basket, the edges being neatly turned in all round. The bottom portion is fitted in after the sides are finished.

The uses for the work when completed are as varied as the materials that may be used for it. Frames, corner eupboards, edges of tables, and milking-stools, postcard eases and stationery eabinets, photograph-boxes, bellows, letter-racks, screen-frames, and fancy easels—all may be ornamented in this way. For use in conservatories and summer-houses the work is specially appropriate, and small tables, stools, flower-pot holders, brackets, pipe-racks, flower-boxes, and fern-baskets, are suitable subjects. All these articles can be had ready-made, requiring only to be covered; but the amateur who has a turn for wielding a hammer and nails will be able to originate a great many others. Durability should be specially studied, for few things have a more rubbish-like appearance than such articles badly made, and with half the eones and acorns fallen off and missing. If such an accident should happen, acting on the principle that "a stitch in time saves nine," the broken spray should be at once replaced, and the others carefully inspected.

SKIN DISEASES.

THERE are very many different kinds and varieties of skin diseases, and to the unpractised eye and unskilled observer they are difficult to recognise and still more difficult to treat. It must be remembered that the skin is not a simple structure, but is composed of a number of different elements and tissues, each performing its own individual and specific function. For example, there are contained and embedded in the skin proper the glands which secrete the sweat, the bulbs from which the hairs spring, and certain complex bodies known as touch-corpuscles,

on the presence of which much of our power of appreciating minute differences in shape and consistence depends. A skin disease may affect all these structures, or may be limited to one or more. Another circumstance which adds greatly to the difficulty in recognising the various kinds of rashes, is that their appearance varies much in different stages of their progress, and also in the same stage in different individuals. For example, an acute and inflamed eezema is very little like the same complaint when it has assumed a chronic and indolent condition.

It is only by seeing a great number of people suffering from this affection, and watching the changes it undergoes from day to day, that we are enabled to recognise the fact that we are dealing with the same complaint under different forms and aspects. As we have said, the same skin disease in the same stage may present an entirely different aspect in different individuals. A good deal depends on the age of the patient, and skin diseases in children often run an entirely different course to the same diseases in adults. The coarseness or delicacy of the skin is another factor to be taken into consideration, and so, for the matter of that, is the complexion of the patient, and his occupation. The arms and hands of a labourer are clothed with a skin which both in texture and thickness differs materially from the skin of a lady who does no manual work and habitually wears gloves.

With regard to the question of treatment, the diathesis or constitutional tendency is an important factor. Take, for example, two men suffering from eczema. One of them is a weak, pale, delicate-looking, consumptive young fellow. He wants port wine, plenty of good food, abundance of fresh air, and such remedies as cod-liver oil, Kepler Extract, Syrup of the Hypophosphites, and so on. Under this treatment his eczema soon gets well. The other man is a great, big, fat fellow over forty, short of breath, flushed in the face, addicted to alcohol, and with an inherited tendency to gout. Here an entirely different line of regime is required. He is directed to give up smoking and drinking, to eat less animal food, to walk more, and to take a good saline purgative, such as a dose of Carlsbad salt, every morning before breakfast. Under this treatment he, too, is soon cured. These two men had the same disease, and yet their treatment was diametrically opposite, the explanation being that they had a different diathesis or constitutional tendency.

There are no such things as specifics for skin diseases, and it is useless to ask what is the "best" remedy for eczema, or psoriasis, or even ringworm; for it is the patient who has to be treated, and not the disease. A skin specialist must be a good all-round physician, or he will not be successful in treatment. Purely local treatment—an ointment or a lotion, for example—may, and not infrequently does, prove beneficial, but no treatment is likely to be permanently successful which does not take into consideration the constitutional peculiarities of the patient. It will be seen that for many reasons skin diseases are difficult to recognise, and still more difficult to treat. The worst of it is that improper treatment is usually very injurious, setting up perhaps inflammation or irritation, and converting a comparatively trivial affection into an obstinate and serious disease.

Skin diseases are of many different kinds, and proceed from a great variety of causes. To begin with, there is the rash which accompanies many fevers, such as scarlet fever, measles, small-pox, chicken-pox, typhus fever, typhoid, erysipelas, and so on. This rash is simply a symptom of the general constitutional disease, and rarely calls for special treatment. Then there are the rashes from which people exceptionally suffer after taking certain articles of diet. Many ladies cannot eat crab or lobster without developing a kind of nettle rash all over the body, whilst others are inconvenienced in a similar manner by strawberries, or possibly by champagne or hock. Then there are the rashes which result from taking certain drugs. For example, bromide of potassium often produces acne of the face, and chest, and back; iodide of potassium may bring out a series of spots looking like flea-bites; and other forms of skin irritation or eruption often follow the prolonged use of tar, of antipyrin, copaiba, arsenic, mercury, and quinine. There are many rashes and eruptions produced by the bites of insects. There are certain domestic pests which are a source of annoyance and even of severe suffering to many people, whilst most of us are more or less familiar with the effects produced by gnats, harvest bugs, and mosquitoes. Many skin diseases, although not due to bites, are parasitic in origin, and the parasite may be either animal or vegetable. For example, itch is due to the presence of an acarus, a kind of insect not unlike a cheese-mite, which burrows under the skin and lays its eggs, causing intolerable itching and discomfort. Ringworm is due to a parasite—a vegetable parasite or fungus—which grows on the shaft and root of the hair and destroys its vitality. Other skin diseases may be caused by the irritation produced by constantly handling certain substances, as in various manufactories. The use of aniline dyes in socks, stockings, and other articles of clothing often excites irritation of the skin, and may produce a rash which is extremely obstinate and difficult to cure. Some skin diseases are simply the expression of a lowered or depressed condition of the general health, and should be regarded in the same light as neuralgia, with which they are often associated. There are several other ways in which skin diseases could be classified, but enough has been said to show that there are many varieties of them, of diverse origin.

This leads to a consideration of what to do in order to avoid skin diseases. It depends simply on common-sense principles. There is no drug or preparation which will keep off rashes, any more than fevers can be frightened away by the same means. The great point is to maintain the general condition of the health. A skin disease seems to get no hold on a healthy man; but if he is debilitated or below

par, it soon tells on him. This is well seen in the ease of ringworm, which is much more difficult to cure in sickly children than in their brothers and sisters who are favoured with a more robust constitution. To avoid skin diseases it is advisable to live temperately, to take plenty of exercise, and, above all, to be very particular with regard to cleanliness, both of person and clothing. It is not a good plan to use brushes, and combs, and towels which have been used by other people, and it is as well to remember that hairdressers and barbers are not always too particular with regard to these points. When the dye from socks comes off on the skin, especial care will have to be taken, and an attempt should be made to remove the staining either by rubbing in oil or by bathing the part in hot water. The quality of soap employed for ablutionary purposes is a question of considerable importance. We have no intention of recommending the wares of any particular manufacturer, but care should be taken to select a mild un-irritating soap.

Medicated soaps should be divided into cakes, each weighing three and a half ounces, or 1,680 grains. The following soaps are used by Dr. John V. Shoe-maker, of Philadelphia, in his clinic, and may be found useful:—

Amber Soap.—A liquid soap which has, as its chief ingredients, tincture of oil of amber, balsam of gilead, and solution of ammonia. It is employed chiefly for enlarged glands, moles, and warts.

Arnica Soap.—Containing ten per cent. of extract of arnica. Used for sore nipples, boils, and carbuncles.

Camphor Soap.—Containing ten per cent. of camphor. It is used chiefly to allay itching, and for chilblains.

Carbolic Acid Soap.—Containing five per cent. of carbolic acid. It is useful to check offensive perspiration, and for chronic eczema and psoriasis.

Elder Flower Soap.—Containing ten per cent. of elder flowers. Used for sunburn and eczema of the face.

Eucalyptol Soap.—Containing five per cent. of eucalyptol. It is useful not only for foetid perspiration, but for all parasitic diseases of the skin.

Glycerine Soap.—Containing fifteen per cent. of glycerine. Most useful for chaps and roughness of the skin.

Naphthol Soap.—Containing five per cent. of β -naphthol. Is useful in the treatment of itch and other skin diseases of parasitic origin.

Salicylic Acid Soap.—Containing $67\frac{1}{2}$ grains to the cake. Is highly recommended for toilet purposes and the removal of corns.

Sulphur Soap.—Containing ten per cent. of sulphur.

Is excellent for acne of the face and other similar conditions.

Thymol Soap.—Containing 50 grains to the cake. Is used as an antiseptic, and for all skin diseases attended with offensive discharges.

Turpentine Soap.—Composed of equal parts of carbonate of potassium, oil of turpentine, and Venice turpentine. It is used in syphilis and psoriasis.

Tar Soap.—Containing 168 grains to the cake. It is almost a specific for psoriasis.

Witch-Hazel Soap.—Containing ten per cent. of extract of *hamamelis virginica*. It is used for piles, eczema, foetid perspiration, and baldness.

Acne.—This is one of the commonest of all skin diseases, and assumes many different forms. It constitutes the “pimples” or “maggot heads” of young people, and the “grog blossoms” of those more advanced in life. It attacks chiefly the face—the forehead, nose, and chin being principally involved. It is a disease of the subacneous follicles—the glands which secrete the greasy matter of the skin. It depends on digestion, and other conditions which interfere with the proper nutrition of the skin. Over-indulgence in alcohol, especially in the form known as tipping, by congesting the blood-vessels of the face, is a potent cause. It is a difficult complaint to treat, and it often persists for months, or even years, in spite of all treatment. It is extremely disfiguring, and patients are always anxious to get rid of it as soon as possible. Local applications are of service, but the great point is to correct irregularities in the general condition of the health. Dr. T. C. Fox says:—“The objects in view are to get rid of any dyspepsia present, and to relieve any constipation by adjusting the diet, correcting bad habits, and administering stomachics, sedatives, alkaline and bitter remedies as suitable laxatives.” Fifteen grains of bicarbonate of soda with a couple of teaspoonfuls of compound infusion of gentian, taken three times a day before meals, will improve the digestive powers, whilst a soda-mint or neutralising tabloid taken occasionally is the best remedy for acidity. When the patient suffers from general debility, a teaspoonful of Fellows’ Syrup of the Hypophosphites in a glass of water three times a day may be recommended with confidence. For poorness of the blood, iron in almost any form is useful, and it probably matters little whether it is taken as a mixture or in the form of a pill or tabloid. When the bowels are obstinately confined, whole-meal biscuits and an “anti-constipation” tabloid before each meal will be found appropriate remedies. Strong purgatives are to be avoided, as they render the bowels inert, and have a tendency to increase the mischief. Of local applications, fuller’s-earth made into a paste

with water, and applied at bedtime, is excellent; while lanoline rubbed in freely is almost as efficacious.

A very good preparation for acne is a combination of lanoline and soft soap; two and a half parts of the former to two parts of the latter. It should be rubbed in freely several times a day. The great advantage of lanoline in the treatment of skin diseases is that it is unirritating and antiseptic. It never turns rancid, and can be mixed in any proportion with glycerine, fats, oils, and paraffin. Lard and vaseline have been abandoned in the treatment of skin diseases by most of the leading dermatologists.

A Turkish bath from time to time is a useful adjunct, especially when the acne spots are not inflamed. It is essential that the sufferer should take plenty of exercise in the open air, that he should be strictly moderate in the matter of smoking, and that he should eschew the use of alcohol, especially in the form of spirits. In the case of young women, attention must be paid to the menstrual functions, and any irregularity in this respect must be corrected. It will be seen that the treatment of acne, as of most other skin diseases, depends on what may be called common-sense principles. There are no special or specific remedies, but the cause of the complaint must be discovered, and the appropriate treatment adopted.

Baldness.—Premature baldness is a serious matter, and few people view the prospect of losing their hair with equanimity. Loss of hair is more common in the case of men than of women, and this may be accounted for to some extent by the greater care and attention which the fair sex devote to Nature's adornment, with which they are usually fully supplied. Women, too, are more likely than men to detect the first inroads of the disease, and to take steps to arrest its progress. Moreover, the various styles of wearing the hair adopted by ladies afford greater facilities for concealing the existence of any shortcoming in this respect. Premature loss of hair may be due to some local condition, but is more frequently an indication or expression of constitutional debility. Dr. John V. Shoemaker, of Philadelphia, a well-known authority on the subject, says:—

"The nervous system, which is one of the most important parts of the human organisation, and controls circulation, secretion, and nutrition, often plays a prominent part, if impaired, in the production of baldness. It has been demonstrated by modern investigation that defective action of the nerves of nutrition is often the cause of the thinning and loss of hair. The nutritive action of a part is known suddenly to fail, the hair-forming apparatus

ceases to act, the hairs drop out until few remain, and the part becomes entirely bald. It is the over-taxing of the physical powers, excessive brain-work, the exacting demands made by parents and teachers upon children's mental faculties, the loss of sleep, incessant cares, anxiety, grief, excitement, sudden depression and exaltation of the spirits, irregular and bolted meals, the lack of rest, recreation, and the abuse of tobacco, spirits, tea, coffee, and drugs of all forms, that are fruitful sources of this defective action of the nerves of nutrition and of general thinning and loss of hair."

Among other causes may be mentioned constitutional diseases such as consumption, the progress of which is often marked by baldness. It has long been recognised that the custom of wearing smoking-caps indoors, and hard stiff hats in the open air, interferes greatly with the nutrition of the hair and arrests its development. On this point Dr. Shoemaker says:—

"The stiff hats so extensively worn by men produce more or less injury. Premature baldness most frequently first attacks that part of the head where pressure is made by the hat. It is, indeed, a pity that custom has so rigidly decreed that men and women must not appear out of doors with heads uncovered. It would be far better for the hair if to be bareheaded were the rule, and to wear a hat the exception. Since, however, we cannot change our social regulations in this respect, we should endeavour to render them as harmless as possible. The forms of hats that are least injurious are—for winter, soft hats of light weight, having an open structure or pierced with numerous holes; for summer, light straw hats, also of open structure. As regards the head-covering of women, the fashions have been for several years favourable to proper form. The bonnet and hat have become quite small, and cover but little of the head. This beneficial change is, however, in part counterbalanced by the weight of false curls, switches, puffs, &c., by the aid of which women dress the head. These, by interfering with the evaporation of the secretions, prevent proper regulation of the temperature of the scalp, and likewise lead to the retention of a certain amount of excrementitious matter, both of which are a prolific source of rapid thinning and loss of hair in women. False hair has likewise sometimes been the means of introducing parasites, which give rise to loss of hair and obstinate affections of the scalp."

Fortunately, baldness is a complaint which admits in the majority of cases of very successful treatment. People who value a good head of hair must take some trouble and pains to keep it in good condition. It is essential that it should be washed carefully at least twice a week, and nothing is better for this

purpose than soap and water. The quality of the soap is not a matter of indifference, and pure white soap free from perfume of any kind is the best. The hair after washing must be very carefully dried, and there is no objection to the use of a few drops of some oily substance which will remove all roughness or unevenness, and give it a glossy appearance. The oil of ergot, scented with oil of rose and oil of bergamot, is especially recommended by Dr. Shoemaker for this purpose. Great care should be taken in the selection of the brushes and comb. The comb should be flexible and elastic, and the teeth should be large, broad, and never pointed. The brush should be soft, and hard stiff bristles are inadmissible. The hair should be brushed carefully and gently many times a day, but the comb must be used with discretion, and should never be allowed to come in contact with the scalp. The hair should be kept fairly short, but constant cutting is a mistake, while singeing is purely an invention of the hair-dresser.

There are many lotions and washes which, if used with discretion, will promote the growth of the hair, provided of course that the hair-bulbs remain intact. One of the best contains :—

Tincture of nux-vomica, three drachms.
Distilled vinegar, two and a half ounces.
Tincture of capsicum, one drachm.
Tincture of cantharides, six drachms.
Spirit of rosemary, one ounce.
Rose-water to six ounces.

Mix to make a lotion. Label, "Poison: for external application only."

This is an excellent preparation, and should be rubbed into the roots of the hair with a small soft sponge night and morning. The tincture of cantharides and the strong vinegar act as stimulants to the scalp, whilst the nux-vomica is a nervine tonic. Rosemary has been added to hair washes of all kinds from time immemorial, but whether it has any particular action it is difficult to say. It must be remembered that this lotion, if taken internally, is poisonous, and it should be labelled accordingly, and not left about where children can get at it.

Dr. Shoemaker's favourite formula is the following :—

Bicarbonate of sodium, two drachms.
Tincture of cantharides, one ounce.
Spirit of rosemary, four drachms.
Oil of nutmeg, fifteen drops.
Eau de Cologne to ten ounces.

Mix. Label, "Poison: for external application only."

When there is reason to suppose that deficient nutrition at the roots of the hair is the cause, a better application is :—

Lanoline, half an ounce.
Lard, half an ounce. Mix.

This is rubbed freely into the scalp night and morning. It is not scented, but a little oil of rose or oil of bergamot may be added if thought desirable.

These local measures are more likely to prove effectual if due attention is paid to the condition of the general health. If the patient is pale and white, Burroughs' Beef and Iron Wine must be taken in teaspoonful doses three times a day; and when the nervous system is at fault, Fellows' Syrup of the Hypophosphites will be found the best remedy. For loss of flesh, cod-liver oil in tablespoonful doses is excellent; or if that disagrees, the Kepler Extract of Malt may be substituted. The food should be of good quality, and appetite should be promoted by a fair amount of outdoor exercise.

Boils.—Boils are often troublesome, and give rise to a good deal of pain and discomfort. They are always an indication that the general health is below par, and they are often due to defective sanitary conditions. The patient requires plenty of feeding-up, and such remedies as beef-tea, mutton-broth, and chicken jelly should be administered freely, with three or four glasses of good port wine during the day. The best medicinal remedy is sulphide of calcium, given in the form of tabloids, one being taken every three or four hours for a couple of days. These tabloids will soon bring the boil to a head and promote the discharge of matter. A hot linseed-meal poultice will often allay the pain. Before the boil is broken, a mixture of extract of belladonna and glycerine applied round the inflamed area will be found efficacious in allaying the inflammation. When boils are of frequent occurrence in a household, medical advice should be obtained, and an investigation should be made into the state of the drains. (See Vol. II., p. 111.)

Carbuncle.—A carbuncle, or anthrax, is a kind of exaggerated boil, but it is a much more serious complaint. The mortality from carbuncles, especially amongst old people, is very great, the deaths amounting in this country to three or four hundred a year. It is a complaint which attacks all classes of society, but especially people who are in fairly favourable circumstances. The pain and suffering induced by a carbuncle are usually very great, and the constitutional disturbance may be as severe as in an acute attack of erysipelas. A carbuncle is distinguished from a boil by the size and extent of the swelling, and by its tendency to spread; by the livid tint of the skin, and the early formation in it of more than one aperture; by the character of the slough; by the severity of the pain, and the marked constitutional disturbance; and finally, by the fact that it occurs singly, while boils are often multiple.

When the carbuncle is large, or involves a portion of the scalp, there is usually marked constitutional disturbance. There is often a tendency to treat the disease lightly, and its real nature is sometimes not fully appreciated until it is too late. A doctor should be sent for at once, as a course of treatment extending over some days, and perhaps weeks, will be necessary. There is no objection to a mild purgative to begin with, but care must be taken not to exhaust the patient by excessive purgation. Rest in bed is essential, and the strength must be supported by an abundant allowance of beef essence, peptonised milk with soda water, egg and sherry, milk, egg and brandy, and the like. As the disease progresses, and the patient suffers from the effects of the fever, alcohol may have to be given in large doses. In the absence of medical advice, the best remedy is aconite. A teaspoonful of tincture of aconite is added to a tumbler of cold water, and of this the patient takes a teaspoonful every hour for six or eight hours, and subsequently every two or three hours for twenty-four hours. A tabloid of sulphide of calcium, containing a tenth of a grain, should be given every three hours, and may be administered concurrently with the aconite. Care must be taken that the room in which the patient lies is well ventilated, and that there is no possibility of the contamination of the air with sewer-gas. This is a point to which especial attention should be paid, as the occurrence of erysipelas or carbuncle, or any similar complaint, may be taken as *possible* evidence of the existence of defective drainage.

Eczema or "Tatter" is a non-contagious inflammatory affection of the skin, attended with a watery discharge, which stiffens the linen with which it comes in contact. It is a catarrh of the skin—a cold, in fact—which attacks the external covering of the body instead of the bronchial tubes or the bowels. It is usually a constitutional disease, but in exceptional cases may be due to some local cause, such as the presence of an irritating dye in the underclothing. It may assume an acute or a chronic form. It is a decidedly variable affection, and one variety will often succeed another in rapid succession. It attacks people of all ages, while young children are especially prone to suffer from it. It is often associated with dyspepsia, flatulence, constipation, and diseases of the digestive apparatus. In children it is not unfrequently due to improper feeding, and to some difficulty in cutting the teeth. In men it may arise from general debility and overwork, and there is a special form of eczema which may be regarded as an indication of the existence of a gouty tendency. Sometimes in women it is due to

uterine disturbance, or some abnormality in the position of the womb.

The successful treatment of this condition will depend very much on the recognition of the peculiar tendency or diathesis of the patient. In eczema, as in all skin diseases, it is not the local condition which has to be treated, but the general state of health of the patient. When there is a scrofulous habit of body, cod-liver oil, Kepler Extract of Malt, steel wine, and the like will do more than all the ointments, plasters, and other applications ever invented. When indigestion and acidity are the exciting causes, these must be combated by giving pepsine, tabloids of carbonate of potassium, soda-mint tabloids, and other similar drugs. When the nervous system is exhausted, Fellows' Syrup of the Hypophosphites, by acting as a nerve tonic, will remove the exciting cause. When gout or rheumatism is at the bottom of it, abstinence from alcoholic stimulants, and Vichy Water taken freely, with one or two lithia tabloids after meals, are the appropriate remedies.

When the bowels are constipated, whole-meal biscuits, with a wineglass of orange juice, or any fruit which may be in season, taken immediately after breakfast, will establish a healthy action, and get rid of a source of irritation. When the kidneys fail to act properly, a teaspoonful of solution of acetate of ammonia in a wineglass of water, taken on an empty stomach, will have the desired effect.

The constitutional condition having been corrected, local applications may be resorted to with advantage. When the skin is inflamed acutely, and feels hot and burning, some soothing application, such as Lanoline, used night and morning, will prove most beneficial. When the disease has assumed a more chronic condition, but still discharges freely, a useful lotion may be made by dissolving half a dozen tabloids of bicarbonate of soda in half a pint of water, and applying it on lint. For many people one of the best remedies is common whiting, made into a thinnish paste, and applied with a brush. A more expensive remedy is made by suspending two drachms of calamine—not calomel—and two drachms of oxide of zinc in half a pint of water, and using it as a soothing lotion.

When the disease has assumed a very chronic form, and all discharge has ceased, an ointment made by mixing three grains of white precipitate powder with an ounce of lard will be found beneficial. This preparation is very active, and must be used with caution, especially in the case of children, only a small portion of the surface being treated at a time. When the disease occurs on the head, and there is a thick deposit of "scab," the best plan is to cut the hair quite short, and apply a large linseed-meal

poultice, so as to get at the seat of the disease. It is always of the greatest importance to use a mild, un-irritating soap for washing, and to take great care that the clothing is not in any way responsible for keeping up the irritation.

Freckles.—Freckles can hardly be regarded in the light of a skin disease, although they are often a source of discomfort and mental irritation to young ladies who suffer from them on the slightest exposure to the sun. By many people they are regarded rather in the light of an embellishment, although this view is by no means universally accepted. As a rule, they are very easily removed, but the process necessitates the expenditure of a certain amount of time and trouble. The best plan is to smear the face all over at bedtime with Lanoline. Should this fail to effect a cure in a week, a stronger preparation known as "Virgin's Milk" may be employed. It is composed of one part of Friar's Balsam and twenty parts of rose-water or elder-flower water. It should be applied several times a day with a soft pocket handkerchief. Another good plan is to touch each little spot with a crystal of nitre. Constitutional treatment is unnecessary, as it is purely a local condition, due to the accumulation of pigment at one particular spot.

Itch.—The itch, or scabies, is certainly a most disagreeable disease. It was at one time common in all classes of society; but of late years, thanks to habits of greater cleanliness, it is now rarely met with, except in workhouse infirmaries. It depends on the presence of an animal, not unlike a cheese mite, called the *Acarus Scabei*, which burrows under the skin and sets up irritation. Its body is oval in form; it has, when young, six legs, and eight when it reaches maturity. It lives for the most part in burrows in the skin, where it lays its eggs. They increase in number very rapidly unless energetic measures be taken to ensure their destruction. The acarus itself is small, and can only just be seen with the naked eye if held up in a good light on the point of a pin.

Itch is met with both in children and adults, and it may attack all sorts and conditions of people. Fortunately it is much rarer now than formerly, and amongst the upper classes of society is almost unknown. It is met with most commonly about the hands and wrists, a favourite situation being between the fingers. It is also common on the legs, in the bends of the elbows and knees, in the neighbourhood of the nipples, and in the folds of the arm-pits. The head and face are rarely attacked. It gives rise to intolerable itching, especially troublesome when the unfortunate sufferer gets warm in bed.

After a few days a rash appears, due partly to the irritation and partly to the scratching. The true nature of the complaint is often overlooked, especially if the itching is limited in extent, and confined, say, to one hand or wrist. It is readily communicated, and it is said that the mere act of shaking hands may suffice to convey the acarus from one person to another. Dirt and uncleanness, and especially the crowding together of many people in lodging-houses, on board ship, and in camp-life, tend more than anything to propagate the disease. During the great Civil War of America it attacked both armies, and the suffering it induced was often very great.

Fortunately the itch is a disease which is readily amenable to treatment, sulphur having from time immemorial been regarded as a specific for it. The sulphur is not taken internally, but applied locally in the form of an ointment. The best preparation is the sulphur ointment of the British pharmacopœia diluted with an equal quantity of lard or Lanoline. At bedtime a hot bath is taken, plenty of soap being used, so as to open up the burrows of the acarus. The skin is then carefully dried, and the ointment is rubbed in freely. The patient sleeps in his nightgown, wearing no flannel, and the following morning takes another hot bath, so as to get rid of the remains of the ointment. The sheets must be changed; and in the majority of cases these measures alone will effect a cure. Sometimes it is necessary to repeat the treatment on two or three consecutive nights, but care must be taken not to unduly irritate the skin, or set up a new rash. If a sulphur bath can be obtained, this forms a most excellent and efficacious mode of treatment; but it is essential that the clothes, including even the gloves, should be disinfected at the same time. The great objection to the sulphur treatment is that the odour of the application is extremely disagreeable.

Storax is another good remedy for itch, and is preferred by most patients. An ointment is made by adding an ounce of liquid storax to two ounces of lard, and this is rubbed well into the skin night and morning. It is cleanly and unirritating. Dr. Shoemaker, of Philadelphia, recommends an ointment containing half a drachm of naphthol to the ounce of lard. Another good preparation is ichthyol, one drachm; lanoline ointment, one ounce. Mix to form an ointment. It should be used in the same way as the sulphur ointment. When itch breaks out in a school or family, it is best to treat the children all simultaneously, so as to avoid the possibility of re-infection.

There are many forms of itching of the skin which do not depend on the presence of scabies, but are probably occasioned by some defect in the nutrition of the part. Local applications may prove efficacious,

but, as a rule, it is better to try and improve the general health by attention to diet, and by the administration of such remedies as phosphorus, iron, and nux vomica.

Nettle Rash.—Nettle Rash—or *Urticaria*, as it is technically called—is by no means a serious disease, although the intense irritation to which it gives rise is extremely painful. The characteristic rash consists of little white solid elevations known as “wheals” surrounded by an area of redness. It may appear on any part of the body, and the desire to relieve the burning pain and itching by scratching is almost irresistible, although it always increases the rash. In many people it occurs without any apparent cause, but not infrequently it may be traced to some particular article of diet, such as mussels, lobster, crab, or shrimps. Sometimes the bite of an insect is the exciting cause, and responsible for the mischief. Wearing flannel next to the skin may act as an irritant, and the presence of aniline dye in socks or stockings may be the excitant. When the attack is a severe one, it may be attended with feverishness, headache, loss of appetite, constipation, and other symptoms of general disturbance of the health. The tongue, mouth, and throat may become swollen, so that the patient suffers from shortness of breath and all its attendant discomforts. With regard to treatment, the first thing is to carefully regulate the diet, and, if possible, to discover and eliminate any special article which may be causing the mischief. Then a couple of compound colocynth pills should be taken at bedtime, so as to ensure a free action of the bowels, and the skin should be anointed freely with Lanoline. A full-length bath, to which a table-spoonful of bicarbonate of soda has been added, will be found useful, and temporary benefit is often experienced by rubbing the spots with a slice of lemon. The complaint is not contagious, and it is fairly amenable to treatment.

Psoriasis is a disease which is very easily recognised. It is essentially scaly in nature, the scales, which peel off readily, being silvery in aspect. It is often hereditary, but it is not contagious. It may appear all over the body, but its favourite sites are the elbows and knees. It always runs a very chronic course, but gives rise to little inconvenience. There is no discharge, and, as a rule, there is very little itching. The great remedy for this complaint is arsenic—say, a tabloid of arsenious acid taken three times a day immediately after meals. It is important to take them after food, as on an empty stomach they are not unlikely to produce nausea or even vomiting. As an accessory measure bran baths will be found useful, one being taken every night at bed-

time. The amount of bran used in the bath is not of any great importance, as it possesses no deleterious properties. Another good application is tar ointment rubbed freely into the skin, especially over the affected parts. The tar is sometimes given internally in the form of pills, but it is less efficacious than the arsenic, a course of which usually effects a cure. There are many other remedies for psoriasis, almost every sufferer from this obstinate complaint having some specific in which he implicitly believes, finding that it suits his own case. Many new drugs are simply old favourites under a more attractive title. It may be taken for granted that almost any substance containing turpentine, or wood or coal tar, will prove of some value. A very good combination for external use is a mixture of equal parts of wood tar, soft soap, and spirit. Carbolic acid, creasote, the *Liquor Carbonis Detergens*, and many other similar preparations, have their advocates. Sometimes, after the removal of the scales, a soothing application such as *Vinolia* does more good than anything. Lanoline cream has found favour with many physicians, and there seems to be good reason for supposing that it is efficacious. Some years ago a substance known as *chrysarobin* was introduced, and was declared to be almost a specific for psoriasis. It is certainly very useful, but the greatest care has to be taken in its application. Shoemaker says:—“It should be handled with great care, and applied if possible under the direction of one familiar with it. If given to those who cannot comprehend the necessity of care in its employment, and who will daub it over the surface in an indiscriminate manner, general cutaneous irritation will undoubtedly follow.” *Pyrogallie acid* is likewise a valuable remedy. It is less active than *chrysarobin*, and will not excite inflammation of the surrounding skin, but it produces a brownish stain which is not easily got rid of, and may even become permanent. It is usually made into an ointment with Lanoline, the best strength being twenty grains to the ounce. Attention must be paid to the general health, as any indiscretion or irregularity will infallibly lead to a fresh outbreak of the disease.

Ringworm.—Ringworm depends on the presence of a vegetable parasite which attacks the roots of the hairs. It usually commences as a small round red spot covered with fine scales. On careful examination several of these places may be discovered scattered over the scalp. The spots spread at their circumference, forming well-marked rings. The hairs will be found to break off short, close to the skin, and the stumps when extracted will be seen to be thickened and irregular. It is very contagious, and the disease is propagated readily, especially in schools

where brushes, combs, and caps are common property. There is no pain, but there is sometimes a good deal of itching. Children who are delicate suffer more frequently than those who are strong and robust. The fungus may be readily detected on microscopical examination.

The treatment should be preventive as well as curative. The child should be isolated as much as possible from his playfellows, and should sleep in a separate bed, if not in a separate room. A good local application is tincture of iodine applied frequently with a small brush, but a solution in spirit of borax, thymol, and naphthol is still better. Borax dissolved in glycerine is excellent, the penetrative power of the glycerine being of the greatest service. When the disease assumes a chronic form, a most useful application is an ointment composed of half a drachm of oleate of copper, five drops of creasote, and an ounce of lard, rubbed in freely and frequently. The preparation known as Coster's Paint is also efficacious. In some cases the head must be shaved, but this is not always necessary. Constitutional treatment must be resorted to simultaneously with the adoption of local measures. Cod-liver oil, Extract of Malt, or Parrish's Chemical Food, will have to be given from time to time. The diet should be nourishing and easily assimilated, and should consist chiefly of meat, milk, eggs, and fruit. Fresh air and outdoor exercise are of paramount importance. The hair should be kept dry, as the presence of moisture favours the spread of the fungus, but the application of glycerine and borax can never do any harm. Sometimes the diseased hairs have to be extracted with a fine pair of tweezers one by one, but this is a tedious process. Ringworm is by no means a trivial complaint, especially when it assumes an

epidemic form, and may keep a whole family of children from school for many months.

When ringworm breaks out in a school, cleanliness and isolation are of the utmost importance. The heads of the children who have escaped the disease should be examined carefully every morning, and should be anointed with the glycerine and borax. The very greatest care should be taken that every child uses only his own brush and comb. When the complaint cannot otherwise be cured, it may be necessary to break up the school for a time, and have the sleeping-rooms thoroughly cleaned, re-papered, and whitewashed. There is now usually a medical officer attached to most large schools, and he will make it his business to investigate and stamp out any epidemic of this nature.

Shingles.—This complaint is frequently called "Zona," from the peculiar manner in which the spots constituting the eruption encircle one side of the body. It is a very harmless eruption, and is usually due to nerve disturbance. It is not contagious, although not infrequently it occurs simultaneously in several members of the same family. It rarely gives rise to any serious constitutional disturbance, although occasionally it is attended with a good deal of pain. The best treatment is to give the patient a two-grain tabloid of sulphate of quinine every three or four hours. Locally the spots may be dabbed over with a little sweet oil, and then dressed freely with flour from a common kitchen dredger. Convalescence having been established, Fellows' Syrup of the Hypophosphites, or a quinine and iron mixture, will be found useful. A few days in the country will usually restore the general health and prevent a recurrence of the complaint.

THE ANNUAL HOLIDAY.—II.

ALTHOUGH the preparations for a holiday must, to a certain extent, be the same, the occupations and forms of amusement during the holiday depend entirely upon the kind of place which is chosen as the holiday resort. A seaside place offers very different attractions from those which may be found in the country or on the Continent, and time passed by the sea must of necessity be spent in different forms of occupation from those which arise in the course of a visit to an inland or foreign village or town.

The Seaside.—A seaside place is usually selected from one of two reasons: either because it is very quiet, or because it is fashionable. Those who lead

busy lives usually prefer rest, and those who want change of scene and excitement in some form, choose a busy town by the seaside. At a seaside place, however, the beach is the chief attraction in the morning, no day being considered complete in the course of which the bath in the sea has not been enjoyed. If any members of the party are youthful, "paddling" is also looked upon with great favour, and young children are usually very willing to spend the whole morning, and afternoon too, digging up the sand with their wooden spades, and filling their buckets with stones and wonderful treasures of the deep.

The great advantage of the seaside for children is

that occupation—and safe occupation, too—is furnished without trouble or expense. Grown-up people rarely care for the beach in the afternoon, and prefer to spend their time in walking or driving. Not a few seaside places are situated within easy reach of pretty villages, celebrated for their scenery or for their old castles, ruined abbeys, or other antiquities. And every visitor is glad to spend the afternoon in driving or walking to view these; or should a tricycle or two be among the family property, they by all means ought to be taken down, if the roads be at all suitable for riding, as they will enable very delightful excursions to be made through the country round the place of sojourn.

Then the pier, with its band, is frequently a great source of amusement and entertainment, and helps to pass away an afternoon or moonlight evening very pleasantly; though often people who are in search of rest and quiet choose a spot where there is no such thing as a pier, and where a parade is unknown. To dress up in all the finery in one's possession, and spend hours in walking up and down a parade, may afford intense and entire satisfaction, or may, on the other hand, be regarded as folly, tiresome, and wearying beyond expression. It must, therefore, be indulged in or avoided according to the taste and fancy of the holiday-maker. At most of the fashionable watering-places, however, the shops are a great attraction to the ladies of the party, and much time is spent in admiration, if not in purchase, of the wares offered for sale.

Gentlemen are usually able to pass the time in yachting or tennis-playing, and the geologist, entomologist, or botanical student can always find pleasant occupation. Nearly all the best hotels are nowadays provided with tennis-courts, and the local clubs make arrangements for visitors to become members, if only for three weeks or a month. At Dover or Folkestone the great event of the day is the arrival of the Channel boat, and all the visitors crowd on to the pier to witness the scene. It is, perhaps, doubtful whether the travellers appreciate the delicate attention; but that view of the question is not taken into consideration by those who are glad to pass away the time.

Whatever form of amusement is indulged in, preparation for it in the way of suitable attire should be made before leaving home. If walking on the pier and parade is enjoyed, better and smarter clothes will be needed than if the object is to avoid society and seek solitude. Children who are to spend their time playing on the beach will require neat and tidy clothes, but these need not be expensive nor elaborately trimmed. It has to be remembered that seawater spoils and takes the colour out of garments of every description.

It is well to make special provision for small children who are to paddle, while many people prefer to make their own bathing-dresses, and carry them to and from the beach every morning.

Sea-Bathing.—The days of the old-fashioned ugly bathing-dresses have quite passed away, and Englishwomen no longer consider it necessary to make themselves look ungraceful and ungainly in the water. On the Continent a Frenchwoman gives as much attention and thought to her appearance in the water as to her appearance on land, and latterly Englishwomen also have given time and attention to the subject.

A bathing-dress is most easily made at home. There is not likely to be much difficulty in obtaining good patterns, which are sold at most of the places where other dress-patterns are obtainable, and very little actual work is required for the making-up. The best material is, without doubt, flannel or serge. Anything which is not woollen, such as print, should never be used for a bathing-dress. Directly the print is damp, it clings to the figure, and in all probability gives a chill to the unhappy wearer. Good swimmers, however, sometimes prefer it, as it is extremely light.

A shape that is likely to suit people of all ages is that which consists of a long jacket or tunic which reaches nearly to the knees, buttoning all the way down, worn over drawers, which may be as long as the wearer chooses. The tunic may be made as ornamental as desired. If it is dark blue, red or white braid will greatly help to decorate it, and make it look pretty. The question as to whether a cap of any kind should be worn is a personal one. American and French women never think of bathing without a very ornamental covering of some kind for the head, and the illustration on page 352 exhibits costumes which, though designed by Marshall and Snellgrove, are in this and other respects modelled on the French style. Most medical authorities, however, recommend that the head should always be wetted as well as the body, and the result is that in England caps are rarely seen. On the other hand, salt water certainly does not improve the appearance of long hair. Any lady who has hair of any length and in any quantity, and who has ever bathed for a number of days in succession in the sea, must know that from her own experience. The waterproof caps, which are certainly most unbecoming, are not considered healthy. The question is a very difficult one to decide, and gentlemen have certainly very great advantages in this respect over ladies who wear their hair long. Most English girls prefer more freedom, especially since swimming has begun to be a female accomplishment. And a kind of loose combination

pattern, with a band round the waist, if made of dark serge, looks both pretty and modest in the water, and suits a lady swimmer well. Such a dress needs no skirt or tunic, and is most easily home-made.

As mentioned in another article, with the use of becoming bathing costumes the Continental fashion of families bathing in company is gradually creeping in at English watering-places. It is generally resisted at first by old-fashioned prudery, which forgets that unless a person is properly and modestly dressed he or she has no business to bathe in public at all. True propriety, of that kind, ought by all means to be enforced; and a main point in it is that a gentleman's costume, like a lady's, should be of a distinctly *dark* material; the simple object being that the individual may *look* and *feel* "dressed" whilst in the water. But we pity the individual who would ask for more. And not only does such an innocent custom add much to the enjoyment, and facilitate girls learning to swim, but it adds greatly to the *safety* of bathing. We write feelingly, and from some sad recollections, when we say that such a custom would have prevented some painful and terrible accidents in past years.

In packing for the seaside, it is always well to remember to provide an extra supply of towels. Gentlemen who like their morning dip before breakfast will greatly appreciate a home towel. Those provided at lodging-houses are rarely very satisfactory, and usually are limited in number. The same remarks apply also to the bathing-machine towels. When there are a number of people, and when there is a question of waiting to secure a bathing-machine, the towels have very often been used once during the morning, and have not had time to dry; and nothing is more unpleasant than a half-dried towel. For paddling, too, extra towels are needed, and it is far better in every way not to take towels which belong to a lodging-house keeper out of doors.

When there are a number of small children, the question of the expense of hiring a bathing-machine each morning has to be considered; and if funds are limited, some other plan may be adopted. The best plan is undoubtedly that of a bathing-tent. It is quite usual at the present time to see three or four of these tents at every seaside place, and as their number increases year by year, it is most evident that they have been found useful and convenient. The tents are so constructed that they can be put up and taken down with very little trouble, while they are not too heavy to be carried about. Another advantage which they possess is that there is no question of waiting an hour or two before the bath can be taken. Very frequently, just at the most suitable time for a

bath, when the tide is at a convenient height, and there has been a sufficient interval since the morning meal, it is absolutely impossible to get a bathing-machine. All are fully occupied for the moment, and very likely most of them are promised to other occupants when the present ones have finished. If the stay by the sea is of any duration, and if the family is of any size, a tent will generally be found to be not only economical, but also convenient and comfortable.

Paddling has already been mentioned as an amusement and occupation for children, and there can be little doubt as to the light in which this amusement is regarded by them. Probably the child that dislikes paddling does not exist. The little ones are only too ready to slip off their shoes and stockings and run into the water. Perhaps there may be some doubt as to the wisdom of allowing such proceedings. It is impossible to lay down a hard-and-fast rule as to the advisability of allowing or forbidding children to paddle. Some children paddle every morning, and receive not the slightest harm from it, whilst others get cold feet, and end the day in sneezing and coughing. Different children must be treated differently; some are stronger than others, and can, therefore, enjoy themselves without troubling so much about the wisdom or rashness of any proceeding.

If children are allowed to paddle, however, they should be prepared beforehand, and their clothes should be so arranged that they cannot get them wet. With small boys, of course, there can be little difficulty: knickerbockers are rolled out of the way very easily; but the petticoats of little girls have an unfortunate tendency to defy safety-pins, and descend with great rapidity. It is, therefore, necessary to provide little girls with a pair of ordinary bathing-drawers, and tuck all superfluous garments safely into these. Then the children can safely go into the sea up to their knees, and as long as they are not too venturesome, they will return to land dry, comfortable, and clean.

The rules about sea-bathing are almost too well known to need repetition; yet though they are so well known, they are so frequently violated that perhaps it may be well just to mention the most important. It is not by any means unusual to see people shivering with cold standing in the water, and to hear complaints from the owners of bathing-machines that the lady at Number 9 has had the machine for more than an hour. If people could only be persuaded to take a short, energetic bath, they would not only derive enjoyment from it, but avoid ill effects after it. All authorities agree that a quarter of an hour is quite sufficient for any one to be in the water (unless in constant motion, as in

BATHING COSTUMES (*French Style*).

swimming); that after the bath the dressing process should be made to occupy as short a time as possible; and that a sharp brisk walk should follow immediately.

When first efforts are being made to learn the art of swimming, the temptation to stay some time in

the water is very great, but it should be avoided. The necessity and advisability of teaching children to swim is becoming more recognised year by year. Swimming is no longer looked upon as a masculine accomplishment, and the number of lady swimmers increases rapidly. Individuals who live

near the sea, usually learn to swim almost without thinking about it; but for dwellers in towns a certain amount of energy is needed before the art is acquired. And here the tuition of a father or mother whilst at the seaside is of such great service. In most of our large towns nowadays there are public swimming-baths, and in these it is possible for all to learn to swim. Certain days are, as a rule, set aside for ladies, and girls can be taught on these days. The day is fast approaching when swimming will be considered quite as necessary a part of a girl's education as learning to read and write, and it will be an advantage to every one when that day arrives.

It is easier to swim in salt than in fresh water, but the sea is not always available; and unless children are carefully treated, the sea may seem rather alarming to them. No greater mistake can be made than to frighten a child the first time he or she bathes at a seaside place. To be held in deep water, and then, without preparation or warning, dipped right into it, is quite enough to terrify even a child not naturally nervous; and who can wonder that screams are the result of such a proceeding? For this reason a bathing-tent is again most advantageous. The child walks into the water gradually, only goes in as far as he wishes, and with a little management can easily be persuaded to wet his own head and dip as much as is necessary. A child should be taught to *enjoy* bathing in the sea, not to fear it; and however much he may enjoy it, he should not be allowed to stay too long in the water.

Seaside Housekeeping.—In the majority of seaside places there is rarely any difficulty in obtaining all necessities and many luxuries; but usually the prices demanded for the same are higher than in towns. The lodging-house keeper and the seaside tradesman have only a short season in which to make any profit, and during that time as much must be made as possible. Knowing this fact, and realising what it means, every visitor to a seaside place should be prepared for extra expense, and should not for one moment entertain the hope of living as economically as it may be possible to do in town.

As far as water and milk are concerned, certain precautions are very necessary. If a filter cannot be taken, the water should be boiled; and children should not be allowed to drink any milk which has not been boiled also. Stories of bad drainage and fevers contracted at watering-places are only too common, and much may be done to avoid all chance of any misfortune of this kind by taking some trouble, and insisting upon drinking-water and milk being boiled. Boiled water is not pleasant to drink, as any one knows who has tried it; but it is possible, to a certain extent, to remedy this. A

spoonful of lemon syrup, or any other of the fruit syrups, added to boiled water, will be a great assistance; but a small gasogene a still greater one. By means of a gasogene the water can be aerated at very small cost, when once the purchase of the gasogene itself has been defrayed.

Country Holidays and Tours.—Something has already been said of the advantages of a farmhouse holiday for children; and though it has also great advantages for elder people who are in search of rest and quiet, yet if the farm is situated in a mountainous district, they will, if they are fond of walking and climbing, probably enjoy themselves more than if there is not much picturesque scenery near it.

Walking any great distance is, of course, quite out of the question for small children; though it is a fact that children who are trained to enjoy walking, and to get used to it whilst they are young, derive great pleasure as well as healthful exercise from it when they are older. To a great extent the power to walk is the result of habit, and should be acquired when young to be of any use.

Many people prefer walking from place to place, carrying their luggage with them, to staying in any one spot and making excursions from it. Both plans have their advantages and disadvantages, and much may be said in favour of the one or the other. Children cannot take any part in a walking tour, but they can very well become members of a party which is taking day excursions, always returning to the same spot at night. The decided drawback to a walking tour is, of course, the knapsack. However light it is, it seems to grow heavier towards evening, and the same distance cannot be accomplished as easily with it as without it.

Walking tours have, without doubt, become more popular lately; and certainly there is much to be said in their favour in the way of saving of expense and enjoyment of varied scenery. Ladies' walking parties are also very common, for of late years ladies have found that, if sensibly dressed, they can manage to walk as far as men, and can enjoy their walk as thoroughly.

In packing a knapsack for a walking tour, the great consideration is, How little can be put in, how much must be left out? Only necessities can be permitted, and luxuries are out of the question. A change of dress or coat cannot, of course, be taken; they are much too cumbersome and bulky. So that if mountain rains and mists find their way through mackintoshes, the garments must be dried whilst their owner reposes in bed.

Clothes which can stand rain should be worn—simply-trimmed hats (without feathers) for the

ladies, and woollen dresses, made plainly and of not too great length. The feet must be absolutely comfortable, or there can be no enjoyment. No tight narrow boots must be worn, but thick-soled, broad-toed ones, as water-tight as possible. If a change of boots can be taken, so much the better; but if not, the boots worn must not have been mended. They must be good sound ones; though not perfectly new, or they may not be easy. At every stopping-place boots must, of course, be dried, if necessary: and, happily, at most mountain inns the art of drying boots is well understood. One of the surest ways of drying boots, without causing them to shrink, and so become tight, is to fill them well with oats or bran, and leave them for some hours. The grain absorbs the moisture from the leather, and this dries it whilst keeping it soft; whereas, if the boots were put near the fire, they would be rendered quite unwearable. The stockings or socks must be quite as comfortable as the boots. A change of these must find a place somewhere in the knapsack. These also should be new and unmented. A darn in a sock may mean a blister to a tender foot; and in walking distances, any weak spot which would never be noticed in the ordinary way will very soon make itself felt. Both stockings and socks should be washed frequently, whenever opportunity offers, to keep them soft; and, of course, it goes without saying that they should be of wool, and not of cotton.

If the feet are tender, washing in salt water will help to harden them. Rubbing with oil of any kind is also an assistance, and washing in mountain brooks is a great cure for foot-soreness. If, in spite of all precautions, blisters are formed, the greatest care must be taken to prevent the skin being broken. A needle passed through the blister is quite sufficient to let the fluid out, and the skin need not be further broken. Lamb's-wool is always recommended by the natives of mountainous districts to cover a blister and protect it from rubbing, and it certainly will be found to be very soft and comforting. An advantage belonging to it is, that it is as a rule easily obtained in country districts in case of need.

The clothing should be warm, even in summer. It will rarely be very hot in a hilly country, except in the middle of the day; and it is always cold on the heights and chilly in the valleys in the morning and evening. It is certainly safer to err on the side of being too warm than of not being warm enough.

An umbrella is probably looked upon by most people as a necessity; but it is not so regarded by those who have done much walking over hill and dale. Rain frequently means wind, and with wind the umbrella is useless. It is far better to rely on a mackintosh for shelter from the elements, and choose

a head-covering which can stand being wet through. A stick, however, is a great assistance to both sexes in climbing; and as it is out of the question to carry both stick and umbrella, the umbrella should be dispensed with. The cap or Tam-o'-Shanter which was used on the railway journey will be found very useful on the mountains, unless the wearer is liable to sunburn, when a shady hat becomes a necessity. So long as the shady hat is trimmed sensibly, with trimmings which will stand rain, and is so securely fastened that there will not be a fear of its blowing off, it will answer the purpose very well, and will protect the face from sun and rain; but if there is no fear of sunburn, the cap or Tam-o'-Shanter will be more comfortable.

A guide-book with a good map is certainly one of the articles which must be considered a necessity. Rustic ideas of distances are very vague, and it is easy to wander away from paths and roads which have mile-stones. A guide-book and map furnish information which is very often new to the natives of the place, who do not care to trouble to climb the hills, and only wonder at those who seem to enjoy such an occupation.

One thing perhaps more necessary even than guide-book and map in mountain-walking is a compass. Mountain mists are very deceptive, and paths, and even rocks, assume quite new aspects in a mist. No traveller (unless he be, indeed, a wild enthusiast) is anxious to spend a night out on the mountains, and a path is easier to lose than to find. A compass is a guide at any time, especially if the direction in which the traveller is going is taken while it is yet possible to see any distance in front.

In case of accident, a brandy-flask is useful; but if ordinary care is taken, there need be no fear of accidents. Whenever the cause of an accident is inquired into, it is almost always found to be the result of foolish daring, or of some folly which might have been avoided with ordinary care.

In making day-excursions from one central place, it is advisable, if there are no children, that the chief meal of the day should be taken in the evening. When there are children, this is of course out of the question, as it is most important that they should have their meals at their usual time, and that the order of their lives should be disturbed as little as possible. With grown-up people, however, the advantages of dining late are so great that it is well worth while making a change if necessary. It is impossible to walk any distance if a return must be made in the middle of the day for dinner. The two, or maybe three, best hours of the day will then have to be spent indoors, for who ever felt very energetic after a substantial midday meal? Lodging-house keepers frequently prefer a late dinner, especially

if it means that there is no midday meal to be prepared. On Sundays an exception is often made; but this will depend on circumstances. If the dinner is ordered late, provision must be made in the morning for some refreshment out of doors. Carefully-cut sandwiches made tasty with pickle, hard-boiled eggs, Cornish pasties: any of these supply the needs of the occasion. The sandwiches, however, must be thinly buttered, as the sun is apt to turn butter and make it rancid. The butter may, of course, be left out; but dry bread is apt to make one thirsty—a very undesirable state of things on the top of a hill, with streams far away. The best way is to butter one of the slices of bread, and leave the other dry.

Hard-boiled eggs are very successful if they are well boiled, and if the salt is not forgotten. Raisins are excellent for taking on an excursion of this kind, as they are sustaining, and also moist. Fruit of any kind is a great help, as it keeps away thirst, and prevents the longing for water. Chocolate is very sustaining, but it also is, unfortunately, dry. Chocolate and brown bread are preferred by some pedestrians to any other form of food, and are considered sufficient. One great advantage of that form of lunch is that it is easily carried.

On a walking tour also a drinking-cup should not be forgotten, as it is generally possible some time during the day to get water. It is usually safe to drink any water which is running, but standing water and bog water should be avoided. High up on the mountains water is generally very delicious; and if the stream is used for bathing the face and feet in one part, and for drinking higher up in other parts, the traveller will continue the journey greatly refreshed.

To return to the lunch, however: each person's share should be packed in a separate parcel, white paper of some kind being used rather than newspaper, if it can be obtained. As a receptacle for food a bag is certainly preferable to a warm pocket, and therefore a satchel or canvas bag for all the food will be found very convenient—that is, if some arrangement can be made by which one and the same gentleman is not always the pack-horse of the party. In this direction a definite arrangement must be made and kept to, or all the members of the party but one will feel uncomfortable.

There are very few days in an English summer on which it is possible to wander forth for a whole day without a mackintosh, and with an easy mind. Such being the case, it is well before starting to consider the easiest way of disposing of the mackintosh, so as to leave the hands perfectly free. Gentlemen usually find that a mackintosh is least inconvenient when it is strapped on the back; but by far the easiest plan for a lady is to strap it round the

waist. It should not be rolled up, but simply folded in half, with the strap between the folds. The plan cannot be recommended on account of its elegance, as it cannot be said to improve the appearance; but it is excellent for convenience, as the weight of the cloak is scarcely felt, the hands are entirely free, and nobody else is troubled with it.

Greater provision in the way of clothing can, of course, be made, if there is not to be any moving from one place to another. Then, it is quite possible to take even two or three pairs of boots, and numerous pairs of socks or stockings.

If the boots are needed to last any time, the same pair should not be worn on two consecutive days, so that time may be given for the boots to be thoroughly and slowly dried.

It is not much use wearing good clothes for mountain climbing and walking; stout, plain, warm, and neat garments are all that are required. If a holiday is taken in an out-of-the-way place, it is a good opportunity for wearing out old clothes; for if the weather is rough, it is a foregone conclusion that they will not be worth bringing back.

The Garibaldi blouses for ladies, which have been so common recently, are capital inventions for travelling. A bright-coloured blouse will transform a walking dress into an evening one; and if the evenings are spent at hotels, this is a very great advantage.

For a long stay in a country place, if much walking is done, two every-day dresses will be needed, for if one is thoroughly wet through over-night, it will not be fit to put on the next morning.

When luggage can be taken, two hats may be considered necessary—one for fine days to keep away the sun, and the other for wet days, unspoilable by rain. It is by no means a bad plan to take an extra coloured silk handkerchief or two, which can be used in case of need to re-trim a hat. When there are any number of ladies in the party, such a provision is quite certain to prove useful.

Of course, the "climbing" referred to more than once in the above remarks, is only such climbing as can be accomplished in the British islands by ordinary mortals. Alpine climbing is altogether another matter, and requires preparation of an entirely different kind; and for it arrangements would have to be made, and precautions to be taken, which would be quite unnecessary for mounting the hills of Wales, Scotland, Ireland, or Northern England. But Swiss climbing requires also something else besides preparation, which unfortunately many householders do not possess, and that is—a long purse. Hence, climbing in foreign parts is not taken into consideration in these remarks; and it is certain, though an Alpine climber might consider the hills of the British isles

beneath his notice, any energetic individual who has spent a whole year in a busy town may get intense enjoyment from them.

With regard to the food supply in a country district, there is not likely to be much difficulty, as long as the traveller does not expect too much. Vegetables and fruit will probably be scarce, but milk and eggs should be plentiful. Great variety of food of any kind must not be expected; and should the country place be far remote from any town, a box of tinned meats, &c., will not give much trouble if conveyed with the luggage, and its contents will be a great assistance in any scarcity of meat.

There are, of course, many other ways of spending a holiday, beside a visit to the seaside, a walking tour, or a visit to a country farmhouse in the valleys or among the hills. Those who are the happy possessors of bicycles or tricycles, probably consider that the only way to get any real enjoyment out of a holiday is to spend it whizzing through the country, doing a certain number of miles a day; and certainly, if it be not overdone, and if enjoyment and sight-seeing, rather than distance, be made the rule, an immense amount of change and enjoyment, coupled with regular healthful exercise, can thus be obtained. Others there may be who are devoted to rowing. They do not care for too much exertion, but yet must have fresh air; and they prefer, above all things, a trip on the river. If they are Londoners, the river will probably be the Thames. A river trip may certainly be most enjoyable, especially if the holiday-makers are not so enthusiastic as to indulge in the wild notion of "camping-out." This experience is most delightful in theory, but rarely answers in practice; and few who have tried it once ever care to try it again. Ours is a climate which is far too uncertain to permit of experiments of this kind. A rainy summer is a far more common occurrence than a dry one, and on a wet night every holiday-maker is far better in a dry bed under a roof, than out of doors on the ground under a tent.

Very often, however, a river or a lake offers occasional boating during a country sojourn; while many men, like the late Rev. Charles Kingsley, enjoy hardly anything so much as fishing, especially if in the midst of mountain scenery, and if a little shooting can be thrown in. With books and some other occupation for wet days, we pity either man or woman who has lost the capacity to enjoy simple outdoor pleasures in the country or at the seaside.

Indoor Occupation.—Not only those who are thinking of camping-out, however, but all holiday-makers, should give thought to the weather when making their preparations. In a

fortnight's holiday there will probably be one wet day, if not more, and occupation for that day must be provided. Books, of course, can be taken from home, but they will soon come to an end if no other form of amusement is provided; and there are few people who care to spend the whole day over a book, however interesting it may be. Children, too, need amusing on a wet day; and it is by no means a bad plan to take a few games, to be brought out only on a wet day.

For young people, and older ones too, the country or seaside furnish occupations and amusements which cannot be carried on in town, and which may be made most interesting. Most schoolgirls nowadays know a certain amount of botany, and even those who do not are sure to love flowers. A most interesting memento of any place is an album containing specimens of all the different kinds of flowers in a district. Those who have a slight knowledge of botany can find out the Latin names and classes, &c.; but those who know no botany at all, will find the English names easily from any illustrated botany-book.

A small case filled with blotting-paper should be carried on the walks, and the flowers, when picked, should be pressed as soon as possible. It is a great mistake to suppose that it will do equally well to press the flowers after they have been picked several hours. Any occasion during the walk on which a halt is made should be seized as an opportunity for pressing the flowers. Then they may be either left in the case or put aside, still in the blotting-paper, under pressure, until the first wet day. It is, of course, far easier to find out the name of a plant before it is pressed; and this can easily be managed by picking a bunch of flowers to be put in water on the return home, and examined in the evening.

When the flowers are thoroughly pressed and dried, they should be mounted carefully in a scrap-album, or on loose sheets of stiff paper, and the name should be clearly and distinctly written beneath them. One of the best ways of fastening the flowers to the paper is by means of the gummed perforated paper which is sold with stamps. Several small narrow strips of this paper, if carefully and neatly used, fasten the flower and its leaf securely, and yet do not look untidy. Gum by itself is not satisfactory; it looks dirty, and the flowers are apt to come unfastened. Perhaps the neatest way is to sow the flower with very tiny stitches on to the paper, and then to paste another piece of paper at the back to hide the stitches. If the flowers are carefully pressed, they will be a pleasant reminder on wintry days of sunny lanes and green fields. Leaves of trees, fern-leaves, grasses—all may be treated in the same way.

Coloured leaves, wild strawberry-leaves, and other leaves, if carefully pressed and dried, may be used to decorate cards. If these are neatly and tastefully arranged, they make extremely pretty birthday-cards, which are certain to be more appreciated than bought ones. Some dried flowers can also be used for this purpose, though many are not suitable. The common hedge-flower, fool's parsley, dries very well, and looks most graceful and pretty. Ferns are of course very useful, and some of them press very well.

Ferns which are changing colour—the bracken fern, for instance—if carefully dried and pressed, are most useful for home decoration in winter. Newspaper is one of the best materials which can be used for drying purposes in this case; and if the ferns are pressed as soon as picked, and then placed under the hearthrug until the time for packing for the return journey comes, they will then be found ready for use. Any dried grasses and ferns are most useful for household decoration, and this should always be remembered on wet and fine days.

Needlework of every kind will of course afford amusement; but this cannot be considered solely as a country enjoyment, for it can be done anywhere. Work which is, however, especially for the country might perhaps here be mentioned. The 'Tam-o'-Shanter' cap has been recommended for its comfort and for its unspoilable qualities; and any one who is not provided with a cap of this description could not do better than obtain the materials by post, and employ the first wet day in making one. 'Tam-o'-Shanter' caps are suitable for both sexes, and can easily be made by any one who is used to crochet-work. All that is wanted is a fairly thick bone crochet-hook and four ounces of Alloa yarn. Common fingering used double will answer the purpose, but Alloa yarn is better.

Tam-o'-Shanter.—Make a chain of two or three stitches, and join in a circle. Into this work enough treble stitches to lie perfectly flat. Work into this circle, going round and round, enough single stitches to make a circle about five inches in diameter. This also must lie quite flat; and to accomplish this, two stitches must be worked into about every third stitch. When the flat circle is large enough, work one round of two stitches into each stitch; then one round of one stitch into each stitch; then one round of six consecutive stitches into six consecutive stitches of preceding round; then three stitches into the next stitch. Repeat to end of round. Then into the middle one of the three stitches work three others; (*) go on with three consecutive ones, skip two, and work three consecutively, which will bring you to the centre of three together of previous round. Into this centre stitch put three, and go on repeating from (*). Work round and round until the

cap is big enough; after a time it will begin to turn over in the working. Then do one round without increasing the three, but continuing to skip the two. After this, six or seven rounds quite plain will make a band.

Line this band with silk, and when doing so, hold it in to make it of the size to fit the head of the intended wearer. Make a small close ball of wool, and place it in the centre of the circle, when the 'Tam-o'-Shanter' is complete.

If the holiday is at the seaside, and not in the country, the natural objects there will afford amusement in collecting them on fine days and arranging them on wet ones. Sea-weed will take the place of flowers. The different kinds may be dried and placed in books, or used to decorate cards. Very pretty designs have been made by arranging dried seaweed on black shiny cards, and putting among the seaweed fishes taken from the coloured scrap sheets which can be bought at any stationer's. The seaweed of course cannot be dried in the same way as the flowers, but the drying process is not difficult to carry out. The seaweed must be washed well in water, to make it less sticky. In the water it will spread out, and look far more beautiful than when it was out of it. To preserve this appearance, therefore, a piece of paper or cardboard should be placed in the water under the seaweed, and it should then be arranged to look as natural as possible. When this has been done, the card should be raised carefully out of the water, so as to drain away the latter and disturb the seaweed as little as possible. The seaweed will stick to the cardboard, and can then be put under blotting-paper until it is dry.

Should the seaweed come unfastened, the edible moss known as Irish moss, which is found at most seaside places, is far better than any gum to secure them again. The larger shells—scallop-shells, for instance—may be used for making album covers for the seaweed. The shells must be thoroughly well washed, and painted over with a thin coating of gum, to give them a glazed appearance. Holes must be made in the top for ribbon to be passed through to tie the shells together. These holes can be formed by heating a fine skewer red-hot, and boring through the shells with it. The shells should be fitted up inside with sheets of paper, cut the same shape as the shell, decorated with seaweed, or ornamented with scraps or sketches, and the paper and shells can be tied together with pretty ribbon.

On a fine day, when tired of digging, children are often willing to gather shells, and on a wet day they will find very pleasant occupation in sorting them. The shells can be used, too, for forming patterns and playing games of different kinds. In these ways and in others many treasures may be collected in the

summer-time which will be useful during the winter, not only as pleasant mementoes of a pleasant holiday, but as pretty decorations for table and room, and these collections may be arranged and preserved on wet days. Pebbles and geographical specimens are also worth collecting in many districts; and if any member of the family possesses a microscope, and has an aptitude in using it, his investigations, if carried on during bad weather, will often be found fascinating to others as well as himself.

Rest and Health.—But one thing is all-important about a summer holiday for all parents who are jaded and worn-out, and, most of all, for the bread-winner of the family. The chief end of it is to be real *re-creation*, in the good old sense—that the worker shall go back better and stronger and more cheerful for it. Observation teaches us, however, that this is often prevented by mistakes so common that they pass almost unnoticed, but so evident in their effects that even *Punch* has embalmed them in jests about people being almost as well as before they went away, after being a few weeks at home again! They may be summed up in the one general error of attempting to crowd so much into the time, that the result is coming home again fairly wearied and tired out. If it is a Continental tour, the body is tired by long and constant journeys, and the mind by a constant whirl of sight-seeing, which is not given time really to refresh and interest the mind. If it is a cycling or walking tour, people who have been for long months unused to exercise, plunge at once into an amount they cannot possibly take without lassitude. This it is easy to understand; but people do not seem to understand that they may do the very same thing at the seaside. From close confinement

to desk-work, they will rush at once into long swims (if good swimmers) in the morning, with long walks or other excursions all the day afterwards; or they will perhaps play tennis all day, with little intermission. They can hardly have too much of the fresh country or sea air, but there is not enough of gradation in their rush from sedentary life into active exercise which their flaccid muscles cannot bear. There is not enough all through of idleness, of mere *rest*, in the holiday of many people; and there is a great deal to be said for that lazy beach-lounging which is the superb scorn of some superior folks. These do not understand that men and women tired out by real work *require* such rest, and enjoy it; but these latter themselves should see to it, that they take enough of the precious blessing whilst within their reach, and do not lose it by crowding too much of sight-seeing or hard physical exertion into their holiday. It is a great thing to be able to “idle” on proper occasions; it often does a world of good, and the man is greatly to be pitied who has lost the enviable power of enjoying simple existence under the blue vault of heaven, with the song of the birds or the whisper of the sea sounding in his ears. We have recognised that for some change and excitement are a necessity: but it is a very sad necessity. And even for them, a measure in the amount of both physical and mental exertion is essential. Even in so trifling a thing as reading, which is more or less generally a part of seaside occupation, novels of such a class as compel the reader to continue into late hours, and so excite the mind as to banish sleep even then, should be carefully avoided by all whose health is in need of improvement. Attention to such considerations as these will have much to do with the amount of benefit derived from the annual holiday.

MARKETING AND PURCHASING OF FOOD.

THE word “marketing,” even in the present day, seems suggestive of an old woman with her basket. If we desire cheapness, we cannot improve upon this original form. Nothing can compete, if you want a bargain, with ready money and a basket, combined with an entire absence of what may be termed shyness. In Turkey, every bargain is a work of time. The seller would ask some fabulous sum—say, a thousand pounds, while the buyer would offer some sum ridiculous the other way. So the transaction would commence. The two would sit down cross-legged, and the one gradually come down in price, whilst the other ascended. The completion of the bargain is generally a work of hours—sometimes days.

Marketing is a mysterious operation, which few people can fathom. For instance, we will consider the case of a little country town where there is really a market, and we find, taking an every-day article of food—namely, butter—that in summer this is obtainable at 10d. per lb., while in winter the price perhaps goes up to 1s. 6d.; but who fixes these prices, it is impossible to say. It is to be regretted that country markets are not a little more like the Stock Exchange, in which the dealers have two prices. When you ask a man the price of Consols, he will say, perhaps, 96 to a quarter, which means that he will buy any amount at £96, and sell any amount at £96 5s. In the butter market, we wonder if any

enterprising dealer would undertake to buy butter at 1s. 5d. if he offered it for sale at 1s. 6d.; and yet, properly speaking, it is this willingness to both buy and sell that constitutes a "market." Of course, this cannot apply amongst a certain class of tradespeople. As a rule, the more customers you have the cheaper ought you to be able to sell things. But at a seaside watering-place, where during two months of the year they sell more than the other ten, everything is dearer, simply because there is hardly enough to supply the demand.

By far the cheapest form of marketing is the one we have mentioned: ready money and a basket. But then, of course, this only applies to what may be termed poor people, or, at any rate, to those who live a retired, quiet, unostentatious life. We must also recollect that there is such a thing as fashion, and even common decency. A lady can go to the fishmonger's, and order the fish to be sent home, and even, in cases of emergency, take home a little piece of fish wrapped in a piece of paper. But when the shop becomes a market, and that market Billingsgate, such shopping cannot be done. Indeed, we omit the word lady, and say that no respectable woman ought to go on such an errand, if only on account of the language she would hear in the great London fish "market."

Marketing, then, like many other things in the world, is a question of degrees. There is the poor woman with a dozen children, who manages to keep body and soul together, God knows how, on less than a pound a week, and yet the children look rosy, and, notwithstanding the occasional black eye on the Saturday night, the woman is fairly happy. On the other hand, we may meet the lady, surrounded with every comfort and luxury, but on whom all the pleasures and vanity of the world have palled, and who, were it known, probably suffers more from the demon known as *ennui*, than her poorer sister with the black eye. Probably, happiness is very much more evenly divided than many persons imagine. However, on the principle that perhaps all middle courses are best, we will leave out the marketing of both Dives and Lazarus. We will not imagine a Rothschild cheapening sprats, or Lazarus driving a bargain at a rag-and-bone shop, but will confine our remarks on marketing to what we may term the middle, and especially the poorer middle-class—those persons who are presumably not poor, because the prayer "Give me neither poverty nor riches" has apparently been answered in their case, and who are fairly satisfied with their present income, with the reserve opinion how very much happier they would be with just one hundred a year more!

First of all, Does it answer to buy such things as tea and sugar in large quantities? This is perhaps

an open question. Some people buy their tea 20 lbs. at a time. It is said to make them more extravagant, and although you will save perhaps 2d. per lb. in buying it, the question is, Do you use $8\frac{1}{2}$ per cent. more every time you make your tea in consequence? If the tea is kept in that mysterious depository known in some houses as the store-closet, and which generally smells like a particularly stuffy grocer's shop, the probability is that a saving is effected, as you give out each week so much tea to be used, and consequently check the expenditure of the material; but to buy tea in this quantity, and let young servants help themselves, would be disastrous. One very important point to be borne in mind in buying things in bulk is, Do they deteriorate in keeping? Most articles with a highly pungent odour undoubtedly do deteriorate, such as coffee, pepper, &c.

But it is not in the purchase of what we call dry goods that real marketing comes into play. Every housekeeper possessed of common sense and forethought, will always have a reserve of these kinds of materials, and there are housekeepers who go to any extreme in their views of economy. We have known cases of persons who will order in a large quantity of soap, and dry it in order to make it last longer, forgetting that beyond a certain point this is simply a waste of time, as servants have to use hot water, and sometimes soak the soap in it, in order to get the amount they want. Others, too, have some horrible method of lighting a fire, which, they say, saves coal and wood, forgetful apparently that what they want is not the fire to look at, but *heat*.

Ordering Meat.—Real marketing is the ordering in of the daily food, in the shape of meat, fish, vegetables, butter, &c. Now, first of all, let us consider meat. There is no doubt that it is far the best, whenever it is possible, to go to the butcher's and *see it cut*. It is not necessary to carry home the joint bodily, if the butcher is respectable; but as a rule you will get a far better joint *if you pick it yourself* than if you simply give the order. It is wonderful how (when a message passes through a variety of persons) its whole tone gets altered when delivered at last. Perhaps the cook will, first of all, come upstairs, and say, "If you please, ma'am, the butcher's called for orders;" whereupon you will carefully explain to the cook that you want a small leg of mutton, that it must be rather fat for roasting, that you wish it to have been killed and hung quite a week, and that it must be between 6 and 7 lbs., but certainly not over 7 lbs. in weight. The order is delivered, perhaps an hour or two later on, after a flirtation over the railings, or a game of marbles (according to the age of the butcher's assistant), simplified as follows:—"Leg of Mutton

No. 3." The leg of mutton arrives in due course, and is not what you wanted; but it is too late to get it changed. On some occasions, as on a very busy morning, or a pouring wet day, it is absolutely necessary to order things. In this case *write* the message down on a piece of paper. It is not necessary to send a note. "Fat leg of mutton for roasting, under 7 lbs. weight, stale killed," would be amply sufficient.

One advantage in going to the butcher's is that you can have a look round the shop, and very often you need not make up your mind what you are going to have for the next day's dinner till you see what he has got. Under the heading of Kitchen Management, we called particular attention to the importance of arranging each day's dinner the day before. If a lady does her shopping about eleven o'clock in the morning, and the early dinner is at two o'clock, it is too late to think about ordering a joint then; yet this is what many ladies do. Sometimes the very sight of the butcher's shop will suggest things, and you have the advantage of being able to pick things particularly tempting. Take, for instance, a fresh piece of veal or lamb that has just been opened, and the hard white fat ranged in a tempting manner. Perhaps, now and then, a flower or a piece of ribbon has been stuck in it, and you may say, "Dear me! we haven't had a joint of veal for a long time," whereupon you select the very part you like best. There is something very tempting about a little loin of lamb, and especially the kidney part, that seems almost asking to be roasted.

Further, it is by this means, and only by this means, that you will gradually become a really *good judge of meat*, and can ensure good joints. In picking a leg of mutton for roasting, you would naturally select a thick plump one, surrounded by a very thick rim of hard white fat. If you simply order a leg of mutton, you will probably have one that has been discarded by all the housekeepers who visited the shop. In glancing round the butcher's, you will generally see three or four legs of mutton hanging up with a skewer stuck through them, surrounded with a piece of paper. These, of course, are the selected legs. Why shouldn't you have the pick, as well as other people?

Again, ladies should feel it their *duty* to do the marketing by themselves as much as possible, and not to leave it to their servants. Anything that tends to foster the system of servants getting Christmas-boxes from the tradespeople, should as much as possible be discouraged. Those who know the ins and outs of some of the West End shops in London, will bear us out in saying that this system of "tipping" has oftentimes been the first step on the road to ruin.

Fish.—If it is not necessary to absolutely make up your mind as to what joint you are going to order from your butcher's, it holds with tenfold force with regard to the fishmonger. When fish is plentiful, it is cheap, and very often *the cheaper it is the better it is*. Herrings are never so prime as when they can be bought at three a penny. It is a very good plan, if you are fond of fish, to arrange with the fishmonger to supply you with sixpennyworth every day, leaving it with him to vary the fish to the best of his ability. Were this to become more general, we believe there would be a great saving throughout the length and breadth of the country. The price of fish naturally varies enormously. Take, for example, soles, which used to be so plentiful, but now are rarely to be obtained in London at 1s. per lb., and sometimes go up to 2s. 6d. per lb. or more. Yet there are fishmongers who would undertake to supply 2 lbs. of fish daily for 6d. Of course you would have to put up with, as a rule, a good deal of the cheaper kinds of fish, such as plaice, ling, halibut, &c., but still the fishmonger would, so to speak, take the fat with the lean, and in his own interest give you as great a variety as possible in order to keep a good customer.

When you visit a fishmonger's yourself, you have no means of testing the price of fish beyond looking at the quotations in the daily paper, as herrings may be eight a penny one day and six a penny the next. Sometimes they are so plentiful they are used for manure, and the same is the case with sprats and pilchards. Were you a regular customer, on important occasions when you wanted a salmon or turbot, the fishmonger would probably take the fact into consideration. Of course, too, the amount of fish you would require every day would vary according to the size of the family. Fish is highly appreciated by grown-up educated people at the late dinner, but is not, unfortunately, popular with servants or children.

Poultry and Game.—In buying poultry, very much depends upon whether you live in a large town or in remote parts of the country. To pick a good bird from among a lot of bad ones requires experience. Of course there are general outlines by which you can distinguish between first-class poultry and old or second-class. Take, for instance, the common case of choosing a turkey. We are generally informed that a hen turkey is best, and that if it is young "the legs will be black and smooth." All this, however, is a question of degrees. A perfect novice might object to a first-class young turkey on the grounds that the legs were not as smooth as an obony ruler. Again, it is generally easy to tell the age of a young cock turkey by looking at the spur: but then, no amount of written description would

possibly enable any one without experience to tell whether the bird was young or not, though these directions may guide you when you have a large number of turkeys together, and can compare one with another. The same remarks apply to choosing fowls. Experience alone will, as a rule, enable you to pick a good one, and by good we mean young and plump. One of the methods is to feel the feet; and if the feet are soft, as a rule the fowls are young. But then you cannot always depend upon these tests. For instance, in France, where perhaps more tricks are played than in England, they have a way of making old birds appear young by scalding the feet, and at times boiling them until they get soft. Rabbits also are only fit for table when young. When old, they will make stews, and are especially suited for assisting in making stock. Some people prefer wild rabbits; others, tame. Wild rabbits can generally be detected by their smell; in fact, they smell of the warren. They are, in the opinion of most good judges of cookery, infinitely superior to tame rabbits, whose flavour depends very much upon the nature of the food given them. In speaking of rabbits being young, M. Ude states: "Whether they are so may be ascertained by breaking the jaw between the thumb and fingers. If they are old, they resist the pressure. Also by feeling in the joint of the paw for a little nut. If it is gone, the rabbit is old, and not fit for fine cookery. In such cases use them to make rabbit puddings or pies." Directions of this kind are necessarily vague until we have some experienced person who will show us practically *what they mean*. The pressure of the finger and thumb, for instance, differs very considerably in the case of a delicate young lady and a blacksmith. In buying poultry, the best safeguard is to deal at a respectable shop, or in the case of being in the country, where very often the poultry has to be bought alive, the ages of the birds are as a rule known almost to a day.

In purchasing game, a good deal depends upon the condition in which you like it to be—whether high or fresh. As a rule, it will be found that persons who eat a good deal of game do not like it at all high, whereas those with whom game is only a very occasional treat like it well kept. This is only natural. High game is very pronounced in flavour, and is a sort of thing we should soon get tired of.

It is quite impossible to lay down any fixed law about the prices of poultry or game, as these prices vary from time to time, according to the season of the year. For instance, geese and turkeys are much cheaper than they used to be; but then they come over from abroad by thousands and hundreds of thousands. It is greatly to be regretted that more

steps are not taken to explain to poor people in the country, who often have gardens surrounded by waste lands, how to keep poultry, both for the sake of eggs and sale, and also the best methods of sending the products to market. Millions of money leave this country annually, and are paid to foreigners, for eggs, birds (especially turkeys), chickens, hares, and rabbits. This money, however, might be kept in the country were our own poor a little more intelligent and a little less idle. During the last forty or fifty years very great changes have taken place in the price of provisions. Some things have got cheaper, and some dearer. In the first place, butcher's meat, which used to be very cheap some fifty years ago, gradually got dearer, and has once more got cheaper, though not so cheap as it ought to be, considering the difference between the wholesale price of the animals and the joints when cut up. Fortunately, bread is, in the present day, very cheap, and it is terrible to think what would happen were the price to be increased three-fold, should this country be suddenly plunged into naval war, with no Joseph at the head of affairs, who would have had the forethought to build public granaries like those the ruins of which may still be seen in Cairo.

Vegetables.—These, of course, vary very much in price, not only according to the time of the year, but also according to the part of the country where people live. There is one point in household management which all housekeepers would do well to remember, and that is—to have always a regular method of obtaining certain vegetables. No home ought ever to be without a few onions and a little parsley. Of course, where there is a good garden matters are very much simplified; but where there is no garden, the question of parsley—or, rather, the absence of parsley—is often one of those trifling annoyances of which life is so much composed. The difference in appearance between a joint decorated with some bright fresh green double parsley, and one that is not, is so great that any oversight in these first principles of decoration shows culpable carelessness on the part either of the cook or mistress. Where there is no garden, it is best to order in parsley twice a week—so much to be sent regularly, according to the size of the house. If the parsley is kept with the stalks in water, it will generally remain good for three or four days. It is better preserved thus than thrown bodily into the water, as it has a tendency to get rotten. Parsley roots are also very valuable in making certain sauces.

Vegetables in the present day are fairly cheap, but it is greatly to be regretted that so much comes from abroad. Even apples are now gathered in Western America, being sent over here in shiploads;

and yet for miles and miles in this country, in almost every part of it, may be seen tracks of land without a single apple-tree, and hundreds of lazy people without sufficient energy to plant one. It may take years for the trees to grow; but then if a man will not sow, "neither shall he reap." Our American cousins are now reaping the fruits of the forethought of a generation past. What a great country this would be if those who had the energy to emigrate during the past fifty years had been forcibly kept at home, while those who have stayed at home had been forcibly sent away!

Groceries.—Owing to the change that has taken place in the price of provisions, housekeepers are very often placed in some little difficulty in regard to what they should order. For instance, bacon in the present day is rapidly becoming a luxury, on account of its price. Then, again, compare the price of tea to what it was fifty or sixty years ago. Really good tea can now be obtained for 2s. per lb., and is possibly equal to what cost 7s. 6d. fifty years back. Probably most articles of what may be called grocery are far cheaper in the present day than they were years ago. We will contrast a few of the prices current in the year 1890 with those of the year 1842. Pickles are not so much cheaper, as a bottle of pickles which can now be had for 8d., in those days did not cost more than 9½d. A very great change, however, has taken place in the price of jams and marmalade. At the former date a pot of jam cost 1s., and contained one pound of fruit. It might possibly have been obtained, if bought in any quantity, at about 10d. a pot. The same can now be bought for about 4½d. Orange marmalade we all remember as "a shilling pot of marmalade." This contained a pound; whereas the retail price charged by growers in country towns now is 10d. for a three-pound jar; and of course, if bought by the hundredweight, it would naturally be cheaper still. Most sauces are much cheaper, for mushroom ketchup can now be bought at about 1s. 4d. per quart, whereas years ago it was much more expensive. Again, macaroni and vermicelli used to be considered rather costly luxuries: the very best can be obtained now for 7d. per lb.; and while the retail price of Naples macaroni is 3½d. per lb., and vermicelli is 5d. per lb., years ago it was nearly 1s. Parmesan cheese in the year 1842 was 1s. 8d. per lb.; it is now 1s. 1d. Considering how long it keeps good, and how invaluable it is in a house to make a nice little dish on emergencies—such as cheese *soufflé*, cheese omelettes, cheese straws, &c.—it is a pity it is not more frequently kept in stock. Potted meats are also much cheaper. Potted ham, made from freshly-cooked ham, can now be bought

at a cheaper rate than it can be made at home; and thus, consequently, a great many of the old traditions about marketing have passed away.

The great secret of successful marketing is to have a quick eye to see what is plentiful and what is in season; and, as prices vary, one must act accordingly. The only thing that keeps down a continual rise in price is for demand to cease. As an instance in point, few housekeepers in their senses would in the present day give an oyster supper. For many years the best natives were bought for about 4d. or 6d. a dozen. This was forty years ago. Gradually the price rose, and for many years it remained stationary at 8d. a dozen. Not so very many years back a dozen oysters, a small roll of bread, a pat of butter, and a glass of ale formed a by no means uncommon lunch, and cost a shilling. In the present day the best native oysters often cost 2s. 6d. a dozen; and we suppose there are men in the world who would still eat them were they a guinea each. It is absolutely a duty on the part of housekeepers to protest, each one in his own way, against too great a rise in prices. From time to time various articles of commerce get into the hands of "rings" and cliques, and the only safeguard the public have is for each one, in his way, to protest against it by ceasing to buy the commodity; but there are many persons who continue to buy; never mind what the price, from habit.

Cash and Credit.—The question of payment is always important, and one point for consideration with housekeepers is, How far is it advisable to pay ready money for everything, to have weekly bills and pay them weekly, or to have bills sent in weekly to be paid monthly, or to have a general running account with their tradespeople, in which a book is made up at certain intervals, but no fixed rule exists? Of course a great deal depends upon the nature of the establishment. There are some persons so situated that they are bound to pay ready money for everything, and perhaps it is fortunate for themselves that such is the case, though they may think otherwise. On the other hand, the vast majority of persons have their bills sent in each week, and some of them pay weekly, while others allow these bills to accumulate, and pay irregularly. No general law could be laid down that would meet every individual case. The man who lives at the rate of £5,000 or £6,000 a year will probably pay his bills quarterly; but in the case of families who live at the rate of five or six hundred a year, and still more in the case of those whose income is half this amount, it is different. There is no doubt that running long bills is incompatible with economy as a rule. Of course, in the case of some people who live very much under their income this may be the case; but unfortunately in England the

majority of the middle classes live just about up to their income, and we fear in too many instances there are cases of men earning a regular salary who have for years been, comparatively speaking, comfortably off with twenty or thirty pounds to the bad. Again, it should be borne in mind that persons who run long accounts cannot expect to obtain their goods quite so cheap as those who pay absolutely ready money. All tradespeople who give credit must make allowances for bad debts and for the tying up of capital.

There are very few trades indeed so remunerative as that of a ready-money butcher. We will only quote imaginary figures and imaginary percentages, but we will take the supposed case of a butcher who never gives credit, embarking with a capital of £100, and making, as a rule, 20 per cent. profit on his purchases. Recollect, this is not 20 per cent. per annum, but 20 per cent. per week. A grocer may buy pickles, tea, tinned meat, &c., and be sometimes twelve months before he makes his 20 per cent. profit on his purchase; but a butcher turns over his capital each week, and a man who embarks in the trade with the capital we have stated, should he succeed in making the profit we have named, would have an income of £1,040 per year coming in from the original capital of £100. Of course this is only an imaginary case to illustrate what we mean. But if this same butcher has to give ten and twenty pounds credit in fifty different places, and sometimes wait six months for his money, in what a different position is he placed to the ready-money man! Consequently, if your butcher knows that you pay him ready money—or, at any rate, pay him regularly each week—you will often be enabled to come to an understanding with him by which you will get your meat cheaper and better, and at the same time he will regard you as a far better customer, if he is a sensible man, than those who run long bills, although they pay in the end. There is no doubt about one point—that those persons who run long bills, and *pay*, in the long run have to pay for those who run long bills and don't pay.

Of course in many households, from habit, it is customary to have the bills sent in weekly, and to pay them either monthly or quarterly. When this is the case, it is very important that the bills should be checked each week. No house of business would last solvent twelve months if no accounts were kept, and things were paid at haphazard; and yet there are tens of thousands of private houses which go on from day to day, a sort of hand-to-mouth existence, where no accounts are kept at all. This subject has, however, been dealt with in a separate article, and is only here referred to again that it may be further enforced from the cook's point of view.

Adulterations.—But we must leave the subject of marketing and buying, and of the merits and demerits of the two systems of cash and credit, and turn to another—one of the most important subjects of the day. We refer to the question of adulteration. The first point to be considered with reference to the question of the adulteration of food is, What is adulteration? Fortunately, the law recognises two distinct kind of crimes, to which is very properly affixed two distinct degrees of punishment. The distinction is—adding any material that is *injurious* to health, and adding any *harmless* material which will simply deteriorate the article in quality, but will not be injurious to health.

To take two very simple cases:—There is an enormous difference between colouring twelfth-cake ornaments green with a mixture of arsenic, and simply adding some water to a little milk in order to make more.

Some of the old stories about adulteration are purely imaginary. For instance, we used to be told that the livers of dead horses were dried and roasted, and then grated, in order to adulterate coffee. Probably there were, indeed, some very gross cases of adulteration from twenty-five to fifty years ago. But the chief form of adulteration in the present day, and in the opinion of Mr. Piesse, the public analyst for the Strand district, the only form of adulteration nowadays practised, is the deterioration of the quality of a substance by the addition of something similar of inferior price, or the removal of a valuable constituent from an article of food, and then selling it as a whole. As an instance of the former, we might refer to such cases as mixing lard with cotton-seed oil, or butter with suet. Another very common instance of adulteration is that of mixing a very cheap oil—cotton-seed oil—with pure olive oil.

A few more instances of the common every-day forms of adulteration may not be uninteresting. Black and white pepper is often mixed with what is known as long pepper, which is a much cheaper article. Mustard, again, used often to be adulterated by being mixed with flour and turmeric. Turmeric is not really injurious, as it is often used in making curry powder, but it is to all intents and purposes a yellow paint. Now, of course, the flour increased the mustard in bulk, the turmeric supplied the colour.

Milk is adulterated in various ways. First of all, the most common species of adulteration is to skim it. This deprives the milk of the best part of its nourishment. Of course, if the milk was sold as skimmed milk there would be no crime. This is an instance of adulteration by means of removal of some important part. Another common form of adulteration of milk is the cow with the iron tail—

in other words, water. Milk, again, is adulterated by the addition of condensed milk mixed with water. The old stories about mixing the brains of animals with milk to make cream are probably fabulous. By far the greatest amount of adulteration which takes place in the present day is in regard to milk. Probably in London 90 per cent. of the prosecutions under the "Food and Drugs Adulteration Act" are on this point. The milk is not only skimmed first, but absolutely watered afterwards, which is adding insult to injury.

Perhaps the next most common form of adulteration is that of mixing coffee with chicory. The Act was evaded for a long time by the grocers complying with the strict letter of the law, and selling what persons bought as coffee with a little chicory added—a mixture containing about 10 or 15 per cent. at the most of coffee, the rest being wholly composed of chicory. It is impossible to have any standard Act which would defy any amount of mixtures. The simplest plan is to buy your coffee and chicory separate, and then you will know where you are. Years back, other materials were used for adulterating coffee—such as ground-roots, carrot-roots, and dandelion-roots—but we have good authority for stating that this is quite a thing of the past.

Another universal form of adulteration is that of watering spirits. There is a standard called "proof," and we believe that twenty-five per cent. under this point is the limit at which persons can legally sell spirits. But the law is virtually a dead letter. It would be quite possible for a wine merchant to sell magnificent old brandy which had been kept in the wood, but had got under-proof in consequence, and, although worth a guinea a bottle, be fined legally; while, on the other hand, some scoundrel could sell some raw German spirit containing a percentage of fusel oil, and escape the penalty of the Act.

It is a great mistake to consider articles necessarily adulterated because patented. If they are so, it is usually to gratify a false taste on the part of the public who use it. For instance, if we get a cake of chocolate, scrape it into a powder, and pour boiling water on it, we obtain a pleasant fluid of the same consistency as tea or coffee; if we take a certain quantity of "prepared" cocoa, and pour some boiling water on it, we get a thickish compound, more like gruel in its consistency, and the general public have an idea that it is very rich and nourishing because it is thick. The real reason is, that originally the cocoa is mixed with some corn-flour or arrowroot. An exactly similar case is that of thickening some good clear soup with some flour-and-water. Manufacturers have to suit the public taste, and when corn-flour is added to cocoa in order to sell it, the proper

view to take of the manufacturer is, "for the hardness of your hearts did he these things."

The moment we come down to practical law, we feel a sort of damper. Unfortunately, the victims of adulteration are too often the poor, who cannot protect themselves. To talk about a poor woman who has to eke out eighteenpence on Saturday night, and who buys tea by two ounces at a time, going to law and appealing to the public analyst, is nonsense. Again, how many well-to-do people are there who will take the trouble to put the law in operation? How many men are there who will summon a cabman for extortion, or really give a man in custody for abusive language or assault, and appear against him in cool blood in a police-court the next morning? The whole subject bristles with difficulties of this nature. All the information necessary will be found in the "Sale of Food and Drugs Act," and the subsequent "Amendment Act." The net sum of it is this: that there are certain persons who are paid by the Government to analyse the food. As far as this matter can be put in a clear light, it is that any ratepayer desiring the analysis of any food or drink (not water) must take a sample to the inspector appointed by the vestry, and pay a fee, varying in amount from 2s. 6d. to 10s. 6d. This payment of a fee seems only just. The inspector then submits the sample, with a mark or number on it, to the analyst. The analyst returns a certificate to the inspector, who takes it back to the ratepayer. This prevents the Act being used for trade purposes.

An idea exists, that having anything analysed corresponds to "going to law," and that if the sample turned out all right, the person sending the sample for analysis exposes himself to an action for damages. *No possibility exists for any action for damages being brought on these grounds*, as there is nothing illegal in having anything analysed.

But, practically, we must take a broader view of this subject of the adulteration of food. The root of it all, and the curse of the age in which we live, is the rage for cheapness. Men expect to get a suit of clothes for a sovereign, and forget the victims of the sweaters in the East of London. Common sense ought to teach the British public that if a man offers them three sixpences in place of a shilling, two at least out of these must be bad or very thin, or he could not live. Do not blame the tradespeople, but blame yourselves. As a rule, throughout the country you can still get a good article *by paying for it*, and yet the public grumble because they cannot get a good article without paying for it. It may be called "supply and demand;" it may be called "political economy;" but, unless something be done to cure this craze for cheapness, our civilisation must break down under the pressure of the many evils which follow in its train.

PHYSICAL AND MORAL TRAINING OF CHILDREN.

WHEN speaking of the training of children, parents very often have in their minds only mental training; they think solely of lessons in the three R's, languages, and accomplishments, or of higher education. They forget that there are other sorts of training equally necessary to successful and happy life—the training of the limbs so that their powers shall be equally developed, the building up of the body so that health shall be assisted, and the training of practice in beneficial habit so that life may be useful and well ordered. Training of this kind must be carried on in the home; teachers and tutors cannot and do not supply it. Yet, if it is neglected, life is miserable and maimed.

The state of the mind, happiness, content, self-forgetfulness, are very dependent on physical health, and physical health is largely produced by conditions which we can control. It is difficult to accomplish much for ourselves or others when we are ill. More than this, it is difficult to be industrious, energetic, self-sacrificing, patient, when enduring pain. Dr. Johnson used to say that "every man is a rascal when he is sick." This is not true, because some of the finest characters the world has known have had to contend with constant ill-health, and some of the most valuable work of the world has been done by those who have had to fight against their own bodily weakness. It is true, however, that very much of the bad temper, the apparent idleness, and the incapacity found in men and women, are due to feeble health; and therefore if parents can do anything to help their children to be strong and hearty, it is certainly a kindness to let them know what the possibilities of the situation are.

We very often hear of preventible diseases. The parent who attends to the physical training of his child is preventing disease, and is likewise making his mental education less difficult. How hard it is for a child to learn school lessons well who has toothache, or who is short-sighted, or who is soon tired through being weak and ailing! What an advantage over the weakling has the child who is healthy, active, and free from pain! Yet health, activity, and ease are all fostered by physical training; neglect of physical training interferes with and destroys them.

Gymnastics.—Many parents have an idea that physical training consists only in the exercise of gymnastics. It is scarcely possible to exaggerate the importance of rational gymnastics, and it is well for children that exercises of the sort now form part of the educational course in many schools. Parents who have the opportunity should, by all means, arrange for

their children to attend a gymnasium. Children who are well trained in gymnastics, better endure fatigue, and suffer less from the changes of temperature and climate, than do those who have no such training. The ancient Greeks appreciated the value of gymnastics in producing beauty. They used to encourage their young people to jump, run, leap, and wrestle, for the purpose of making them graceful and beautiful. Continental nations value gymnastics as a means to hardihood and skill in battle. Surely parents who aim at making their children healthy, and at developing their powers in order that their lives may be useful and happy, should not despise gymnastics.

The use of gymnastic exercises lies in the equal development of all parts of the body. Those parts of the body are the strongest which are regularly exercised. If we were to use the right arm only, and tie up the left arm, the right arm might grow strong and muscular, but the left arm would become weak and thin. Any part that is not used wastes, and any part that is used reasonably becomes strong. Yet if we make use of one part of the body unduly, that part becomes strong at the expense of other parts.

In rational gymnastics, therefore, the aim is to develop the parts of the body harmoniously; and one enthusiast, Ling, the Swedish gymnast, spent his life in preparing a system of movements which would bring the different muscles into play, and thus develop harmoniously every part. In many schools either Ling's exercises, or exercises invented by other experts, are practised constantly, and the consequence is that children grow up healthy, straight, strong, and graceful, who without this physical training would have stooped, been awkward, weakly, and delicate.

Some parents have an objection to gymnastics, especially for girls, because they regard them as dangerous. Practised reasonably, however, they are no more dangerous than any other movement of daily life. Step where we may, we are liable to danger. If we cross the road, we may be run over; if we come down stairs, we may slip and break a leg. If, before moving our limbs, we thought of the wonderful mechanism of the joints that are brought into play, we should never dare to stir at all. Yet we do not hesitate to cross the road, or to descend the stairs; and we know that the people who are most liable to accident are those who are most awkward and least graceful. The practice of gymnastics gives grace to the body and suppleness to the joints, and therefore they tend to safety rather than to danger.

Those parents who have the opportunity of letting their children practise gymnastic exercises, are to be congratulated. We rejoice, therefore, to know that in many high schools gymnastic exercises form part of the daily work, and in certain Board Schools thousands of children are trained in physical exercise. Yet it would be a mistake to suppose that the means for physical training at the disposal of the parent were exhausted when the child has been allowed to exercise, or that parents who cannot have their children thus exercised must be content to forego physical training for their children altogether. Gymnastics do not constitute the whole of physical training, as there are simple means which parents may adopt at home to secure the physical well-being of their children. Those means are of use also in supplementing gymnastic exercises when they are within reach. Parents ought never to forget that a little intelligent attention given to the physical training of the growing child of from nine to sixteen years of age, will accomplish more in the way of making that child strong, graceful, healthy, straight, and hardy, than will any amount of money, time, and scientific treatment given when the individual is twenty-five years of age. The intelligent attention indicated may be described as follows:—

Food and Dress.—To promote the physical well-being of a child, the parent must be careful to supply good wholesome food at proper times; to let the child live in well-ventilated rooms; obey the laws of health; observe cleanliness; be particular in the management of the teeth; and act sensibly in every way. Attention to details of this kind are of great importance, and they constitute a part of physical training. They have, however, been referred to fully in other parts of this work, and need not be repeated here.

The parent who wishes to promote the physical well-being of a child must attend carefully to dress. The ordinary dress of average individuals is about as damaging to health as it well can be, and parents who dress their children irrationally are not giving them a chance of being strong. The causes of weak health are often put down to over-study and too much exercise, when really they are to be found in the tight-fitting heavy dress, the pinching high-heeled boot, and the improper attire. On this part of the subject, however, enough has been said, and parents who are in doubt as to what rational clothing is, are advised to turn to pages 50 and 251 of Vol. I. of this work. The adoption of healthful dress and of wise hygienic living have, however, so much to do with physical well-being that it would be absurd to speak of physical training and not to mention them.

Exercise.—Having done what they can to dress children properly, and to enable them to live properly, it still remains for parents to provide exercise for their children, in order that the different parts of the body may be harmoniously developed. It is here that too often a difficulty comes in. How is it possible for people who live in towns, with only streets to walk in, and no opportunity of engaging daily in the healthful delightful games which do so much for young people, to get the exercise needed for true and full development? In bad weather, also, of which we have so much in this country, parents cannot send their children to take exercise in the open air. Usually it is particularly difficult for girls to get this necessary exercise, even in fine weather. Boys go on their holiday to some place where they can play cricket or football, and they get physical training and enjoyment at one and the same time. But girls spend their holiday in reading or fancy work, or, if they go out at all, they take a decorous walk in the country; and until the introduction of lawn-tennis, that greatest of all blessings to girls, it was quite a rare thing for them to run, leap, jump, or throw a ball. Is it to be wondered at, then, that girls suffer from ill-health? A close relation exists between exercise and health; if exercise is dispensed with, health must be injured.

Let not parents imagine, however, that there is any desire felt here to depreciate the great value of the exercise gained by walking in the open air. Walking exercise is most excellent, and the habit of walking ought to be encouraged in young people in every way that is possible. The mere fact that the walker breathes the pure air out of doors is an advantage, while movement promotes circulation, and does good every way. Parents who foster a love of walking in their children are doing them a great kindness, and giving them a taste for what will be a source of enjoyment as long as they live. Especially should parents encourage girls to walk, because girls, left to themselves, are less likely to walk than boys are. Yet, as the celebrated Conversation Sharp once said, "the true accomplishments for ladies are a love of reading and a love of walking."

Method in Walking.—Let young people walk, therefore, by all means, and let parents who wish to train their children physically do what in them lies to give these children a taste for taking long walks, for climbing hills, and exploring new districts. When about to take these long walks, it is worth knowing that the manner of walking is by no means a matter of indifference. Experienced walkers and climbers, who are able to traverse long distances and ascend mountains without very much fatigue, generally adopt a particular method of

progression; they may not be conscious of the fact, but the good walkers who depart from this method are exceptional. They seldom walk by fits and starts; they keep up a steady, even, somewhat slow pace, and they let their walk and their breathing keep time after a fashion. Thus, as they begin to take in a breath, they raise one foot; as they finish taking in the breath, they put that foot down. In the same manner they let the other foot make its step with the sending out of the breath. This manner of walking is not easily attained: it requires practice; but once attained, it is of the greatest assistance.

In itself it constitutes an approved cure for certain forms of heart disease. It was invented by a German physician, Dr. Schweninger, and a no less illustrious patient than Prince Bismarck adopted it and benefited by it. It is not necessary, however, to have heart disease in order to test its usefulness. As a mere aid to country walking and climbing, it is invaluable in lessening fatigue, though, of course, not suited to short walks in public streets; and parents who know it, and who accustom their children to adopt it, regard it as a part of physical training.

Other Forms of Exercise.—Walking does not, however, supply sufficient exercise for the development of the system. It engages the muscles in the lower part of the body only, and makes little call on the vital organs which are situated in the upper part. In this way it comes to pass that young people whose only exercise is walking, very often become flat-chested, and readily succumb to lung and throat diseases. They need exercise which will expand the chest, which will stretch the limbs, which will throw back the head and shoulders. How is this to be secured?

An easy way of meeting the difficulty described is to proceed as follows:—

Let the parent see whether there is not a room in the house where it would be possible to fix a trapeze. This may be quite a simple affair, consisting only of a cross-bar suspended by two cords attached to two pieces of iron chain. By using the different links of this chain the trapeze can be made long or short, to suit the height of the children who are to practise on it. If two strong meat-hooks, of the kind fixed in larders for hanging meat and game, be sewed into the beam which goes across every ceiling, the trapeze can be hung on the links when required. When not required, it could be taken down and put out of sight. The hooks would be a very slight disfigurement to the room; for when the ceiling was whitewashed, they could be whitewashed also; and the whole apparatus need not cost more than seven or eight shillings. Of course it would be necessary for a carpenter, or for someone who understood the

work, to fix the hooks, and also to attach the cords; for the trapeze must, before everything else, be made perfectly safe. Once supplied, however, the bar would be an endless means of exercise and source of amusement. Quite small children might be taught gradually to swing and climb into a trapeze of this description, and, without any trouble or any danger, they would become expert in using it, while they would gain incalculable benefit from it. A few minutes' exercise on the trapeze taken before a meal will give an appetite, and take away the lassitude induced by hard work or study; and the movement would promote circulation, relax the strain on the nerves, bring different muscles into play, and furnish the rest which comes from change of work.

Dumb-bells and Indian clubs furnish exceedingly good exercise for young people, and, if used for a few minutes night and morning regularly and systematically, they act like a charm in expanding the lungs, producing an upright carriage, and promoting health and vigour. It is very important, however, that the bells and clubs chosen should not be over-heavy, and also that they should not be used so long as to cause undue fatigue. They should be used for a minute or two only at first, and the period of exercise should be gradually lengthened as the child becomes accustomed to it.

Excessive exercise is as harmful as no exercise at all. At a recent meeting of the Society of Medical Officers of Health, the President, Dr. Welch, declared his opinion that, independently of the danger of broken bones, there must be a large increase of heart disease and diseases of the blood-vessels, which have their origin in football as played at present.

Lawn-tennis, fives, cricket, and similar games are most excellent exercise when they can be obtained. When they cannot be had, and also when the weather is bad, a substitute for them by no means to be despised is Badminton, played indoors. Let the mother who is disposed to try this game arrange for the furniture in the nursery, or the room in which the trapeze is fixed, to be put aside, and let her have a rope stretched across the middle of the apartment. The players may now form themselves into sides—one, two, or four on each side—and with tennis bats and balls, or battledores and shuttlecocks, may have a capital game, very similar to lawn-tennis. The players take it in turns to serve by driving the ball to those on the opposite side of the rope. If the opponent fails to strike the ball, the miss counts one to the adversary, and the side which first scores a certain number wins. A game of indoor Badminton makes great fun; young people always enjoy it, and yet it furnishes excellent exercise. One proof that it brings into play muscles not generally used, is that it is very fatiguing to those

who are not accustomed to it. If people who are in the habit of taking walking exercise only, engage in this game for half an hour, they feel quite stiff the next day. The stiffness soon wears off, however, and we have medical authority for saying that when played heartily, this game scarcely leaves any part of the body unexercised. In bad weather, therefore, or when opportunities for exercise are lacking, the practice of this game may be very useful.

Attitudes.—Parents may do much to promote the physical well-being of their children by watching them, and checking them if they do not hold themselves properly, if they loll about, stoop, poke their chins forward, walk head foremost, form a habit of standing on one leg, or incline to any other absurdity of the sort very common among growing children, but very objectionable and most harmful. Young people are apt to sit or stand in the position which is easiest to them, without thinking whether the ease is injurious or not. If their parents insisted upon their being upright, upon their keeping their shoulders back, their heads up, their chins back, the correct position would soon, with habit, become natural to them. An easy way of helping children to stand and sit correctly is for parents to arrange that every day, before and after each meal, growing children should stand straight up, with their backs to the door or the wall, for about a minute, making, as far as possible, every part of the body—the head, shoulders, elbows, hands, back, and heels—touch the door. This puts the body in a right position. It throws the chest forward, and keeps the head and shoulders back. It is a very simple and easy thing to do; it requires no apparatus, and occupies little time, yet it is wonderful how useful it is. All well-brought-up children have the habit of tidying themselves before meals. They wash their faces and hands, and make smooth their hair. If the mother would teach them when tidy to stand up to the wall for a minute as described, she would find that, almost without doing anything else, they would become upright and stand correctly.

If, notwithstanding all the care that is taken, a child stoops or pokes her head forward, or has one shoulder standing out more than the other, parents should at once consult a good doctor, to ascertain that there is no curvature of the spine present. If taken in the very early stages, an evil of this kind can often be cured by appropriate exercises; but it needs an expert to decide what the exercise shall be which is to accomplish so much.

The Eyes.—A very important part of physical training is the care of the eyes. Many children are pronounced stupid and slow who are really afflicted

with weakness of sight or short sight, and who, therefore, ought to have special consideration. Neglect of imperfect vision is all the more deplorable because it can very often be cured, if treated properly. If suitable spectacles were provided early when necessary, many an adult would see comfortably who now gropes and fumbles in most pitiable fashion. Even when no defect exists, good sight is so great a blessing that it ought to be guarded. One way of taking care of the eyes is to prevent young people trying them unwisely, to check them if they attempt to read in a bad light, and to forbid their looking fixedly at a very bright light.

On the subject of the care of the eyes, a great authority, Dr. Squire, in a valuable work entitled "Our Homes, and How to Make them Healthy," says: "The increase of short-sightedness with the increase of education is an evil so important to guard against and prevent, that some of the rules to be observed during the hours of instruction will be explained. Short sight is more frequent among children who begin book-lessons very young. Children of three years old should be taught their letters on picture-blocks. No lessons should be of more than half an hour's duration for those under six years of age. The type should be large in books for the very young. Insufficient or ill-arranged light obliges us to lessen the distance between the eye and the book; this is done in twilight, and must occur if the desk and seats are not rightly proportioned. Ten inches should be the least distance between the eye and the book, and copy-books should not be placed straight upon the desk, but so that the lines slope upwards to the right; a straight down stroke can then be made without bringing the left eye too near the paper, or giving a twist to the head and body. For writing, the paper should be raised by an angle of 20°; for reading, the book is better raised to 40°; the two eyes can thus be moved along the lines without fatiguing the muscles or compressing the eye; then the book must not be too far on the table, or the child will have to sit on the edge of the seat and lean forward, and press against the chest, or use the arms in support. The seats must have backs, not too high and not standing backwards; the back ought to be straight, with a firm bar of wood about three inches broad to come across the loins, close above the hips. The seat should be broad enough to take the whole length of the thigh, and a foot-board should be so fixed as to let the foot rest naturally on it. The edge of the desk must be perpendicularly above that of the seat, and just high enough to allow the elbow to rest on it without displacing the shoulders. For school-work, the back of the seats should consist only of the support before mentioned; for boys it should be one inch

lower than the edge of the table, and for girls one inch higher than the table. Too long a time at once is often directed to lessons; the length of application or attention has to be varied with the age of the child. Not only short sight, but various spinal deformities result from inattention to the above directions."

The reciprocal influence of seats and lighting is well insisted on by Mr. Liebreich. He says: "A back-rest is necessary to avoid short-sightedness, and good light is necessary to avoid curvature of the spine. For preservation of sight, as well as of a normal figure, the possibility of remaining in a normal posture during school-time, and especially when writing, is an absolute necessity."

Order and Self-help.—So much for the physical training of children in the house. Next to it in point of importance comes practical training: by which is meant, not the training which shall enable young people to earn their living and support themselves (that would be industrial training, and will come under notice when the subject of Careers for Boys and Girls is discussed), but rather the training which shall enable them to keep themselves, prevent their being dependent upon the labour of others, and make them satisfactory and helpful members of the household. Both boys and girls need this training, although it must be more elaborate, extensive, and complete for girls than boys, because girls are to be the home-makers, and it will be their work to rear and order the family. Yet boys need it also; and there is many a boy who makes work for the women of his household, who needs to be waited on, and who feels lost and miserable if he is taken away from his accustomed surroundings, who might have been quite different if his mother had trained him differently. In practical matters, as in physical ones, youth is the time for action, and it is quite easy to make a child of seven years do what it is almost hopeless to try for with one of seventeen.

Let mothers, therefore, begin when the children—both boys and girls—are quite young, and train them in habits of order. Make it a rule that before leaving their bedroom in the morning they shall open the window top and bottom, turn down the bed-clothes, and spread their night-dresses over a chair to air.

Attention to these small details, which will not take the child a minute, will, if repeated in every room in the house, expedite the work of the housemaid by an hour. Teach the children also to brush their clothes, to put them away neatly after wear, and to set in order whatever they disarrange; let them tidy out their drawers on a particular day in each week, put away their books and papers when lessons are

done, and change their boots after walking. Impress it upon them that they are never to leave soap in the water; that they are to set their tooth-brushes to drain after use; that they are to shut their drawers, and close the doors of wardrobes after hanging their garments; that they are never to use a pocket-handkerchief in the place of a duster. Teach them, also, to think of others as well as themselves, by giving them small duties to perform. Children love to be useful and to be important, and activity to a useful end cannot but be beneficial.

Accustom young children to be kind to animals: never allow them to rob the nest of a bird, to treat dogs or cats unkindly, or to neglect their pets. A tender mother once said: "If a boy shows a delight in torturing dumb creatures, it would be a good thing to show him what hurting means. Pinch him on the hand, not in anger, but in order that he may see how he makes another suffer. Do this, however, in the right spirit, and be sure that he understands it." A better way of training children to be kind to animals is to open their eyes to the wonders of the natural world, and to point out to them the habits and characteristics of the creatures. A child who had become intelligently acquainted with the habits of a frog or toad, who had watched the spiders spin their webs, or taken interest in a bird feeding its young, could hardly become cruel in after-life.

It is always a gain when a boy knows how to use carpenters' tools, can mend a chair, saw a plank, or put up a rail; yet it is seldom that an accomplishment of this kind is acquired late in life. But the boy must be taught to *use his hands*, or the man will be helpless in this direction. Wise mothers make a point also of teaching their boys the use of a needle and thread, accustoming them to sew on their own buttons, and to repair small rents in their garments. Many are the boys whose destiny has carried them far from home and friends, who have been thankful for the training which enabled them to perform tasks of this kind.

Domestic Training.—We say that it is desirable to train a boy to help himself, and to use his hands; we may add that it is almost cruel not to train a girl to be practically useful. That a boy should be capable, affects his own comfort; that a girl should be capable, affects very often the comfort of a whole family. By all means, therefore, girls should be made familiar with the routine of household work: they should be taught how to clean a room, to cook a dinner, to make their own clothes, to trim their hats and bonnets, to knit their stockings, and arrange furniture. Whatever position a girl may occupy, knowledge of this kind will be valuable, for a woman

cannot tell when household work is well done unless she knows what good work is; and the want of knowledge of this kind has made many a girl a failure who might have been a brilliant success.

It is one of the easiest things in the world for a mother who is herself interested in the ways of her household to teach her daughters domestic management. Children enjoy imitating their elders, and a little girl of five or six may be put in the way of being a clever housekeeper by being allowed to perform small household duties. An interesting writer on domestic economy, speaking on this subject, says:—"The little ones like to be useful if they see others about them useful. They like to follow the mother about the house, under pretence of helping, though often hindering her; they enjoy using their little hands about something that older people do: in fact, to work, until false notions are instilled into their minds. Nearly all young girls delight to have some small household duty committed to their care; and if this disposition should be fostered, instead of being discouraged, as it often is, on the ground that they cannot do the thing as well as an older person, they would, with rare exceptions, grow up with a knowledge of those home matters, and interest in them, about which nowadays there is so much complaint that girls know little, and care less."

One of the objections frequently made to the thorough education now enjoyed by many girls is that the time which ought to be devoted to domestic practice must be occupied in study. Mothers ought to realise, however, that it is not necessary for a girl to spend even half her time in the kitchen, in the performance of household tasks, in order to give her a practical domestic training. The truth is that the education which develops a girl's powers of observation, perception, and attention, makes her quick to learn domestic work, as well as all other work. It is a positive fact that some of the most highly-educated women of the day are also the most domesticated, and for a woman to be a poor housekeeper is a sign of incapacity and weakness rather than of genius. On this point we have the testimony of one of the most talented and intellectual women of the day, Frances Power Cobbe. In her work on the "Duties of Women," Miss Cobbe says: "Strange to say, though I have had a pretty large acquaintance with many of the most eminent of specially-gifted women, artists, musicians, and literary women, I have almost invariably found them proud of their housekeeping, and clever at the performance of all household duties, not excepting the ordering of 'judicious' dinners. Not to make personal remarks on living friends, I will remind you that the greatest woman mathematician of any age, Mary Somerville, was renowned for her good housekeeping, and I can add, from my

own knowledge, was an excellent judge of a well-dressed *déjeuner* and of choice old sherry; while Madame de Staël, driven by Napoleon from her home, went about Europe, it was said, 'preceded by her reputation and followed by her cook!' I suspect it is not higher genius, but feeble inability to cope with the problems of domestic government, which generally inspires the women who wish to abdicate their little household thrones."

Sewing.—Mothers frequently complain that though it is comparatively easy in these days to teach a girl cookery and domestic economy, it is most difficult to teach sewing. The explanation is that, owing to the establishment of cookery schools, and to the fact that high-born and even royal ladies have attended them, and to the interest associated with cookery, the appreciation of culinary skill is general; and the majority of girls would be ashamed to say that they could not cook, and proud to have it known that they could. With sewing it is different. Sewing is tedious work, and the employment of sewing-machines has made this branch of household work less necessary. That sewing-machines are very excellent, there is no doubt, but they are of the greatest value when in the hands of people who understand plain sewing. Yet it seldom happens that women who do not learn plain sewing when children, acquire a mastery of the art in later life. By all means, therefore, mothers should teach their little girls to sew. Even a little child two or three years of age may be taught to use a needle and to wear a thimble; and early practice in the art of needlework makes the use of the needle seem like second nature. Mothers ought to do what they can to make needlework interesting and enjoyable. Encourage the little girls to sew, by allowing them to make doll's clothes or presents for mother, instead of condemning them to dreary seams and hems; give them a pretty work-box to hold their belongings, and praise the work whenever it is possible. By adopting methods of this sort, needlework may be made delightful to the children.

Perhaps mothers who have found difficulty in training their girls to sew may be glad to read the advice which was given by a mother who, not from theory, but from actual experience and marked success, had arrived at a strong opinion on the subject of how girls should be taught to sew. The mother in question was named Mrs. Curd, and the advice was published in an American magazine named *Good Housekeeping*. Addressing mothers, Mrs. Curd says:—

"Do not let your child commence too soon on fancy or decorative work, but give her a good foundation by a thorough drill in plain sewing while yet

young enough to be guided by your instruction. With this foundation all branches of ornamental work will be comparatively easy.

"Vacation is the best time to begin your instructions, for then the days are long, and the duties of school have been laid aside. A suitable piece of work to commence on is a pair of pillow-cases, for in making these the child learns to seam, to hem, and to make button-holes. Commence when she is fresh, soon after breakfast, having previously cut out two pairs of pillow-cases—one pair for yourself, and another for the little daughter. See that she is supplied with a neat little work-box or basket, thimble, thread, and needles. Begin by fixing her work for her; then commence together, first starting her work.

"She will take great pride in having her work look as well as yours, but unless she is an unusually apt pupil her stitches will be long and uneven. If not neatly done, advise her gently to pull out her work—or, better still, tell her you will take it out for her, letting her have a run out of doors. She will come in with a clearer head and steadier hand than if scolded and made to take out the misplaced stitches.

"When she has finished the seams on her pair of pillow-cases, baste the hems for her, and set her to hem. Caution her to have her stitches even, but not too short, as, with beginners, very short stitches are apt to be crooked.

"Keep your work with hers. Above all things, try to keep up her interest; and when she comes to the button-holes, cut them for her, neatly overcasting the edges. Impress it upon her that she must be careful and take up very little of the material, as thus she will make a much neater button-hole; then have her fasten the ends strongly and evenly. Now let her sew on her buttons, and when she has finished, fold and put away; and if she has done them well, she will be a very happy little girl, and you a very proud mother. She may be several days in making the pillow-cases, but do not hurry her; and, above all things, do not become impatient with her, and tell her that she must finish them by a given time.

"Next teach her to darn. Let her take a pair of her own stockings—the pair with the smallest holes, for large holes are very discouraging to a beginner. Tell her that, in order to make a neat darn, she must use a long slender needle, and cotton not too coarse. It is best to darn over a china egg, going back and forth till the whole is covered; then cross the stitches, weaving in and out, until the darn is as solid as the original material. Unless a girl learns the intricacies of darning when she is young, she is apt, when she is grown up, to depend on 'mamma,' or, worse still, to go with stockings unattended, either of which would be inexcusable.

"For a worn or torn place in a dress she should not, of course, darn as she would the heel of a stocking, but baste a piece of the material underneath, and darn back and forth with dainty tiny stitches till the rent is repaired; then, with a damp cloth laid over the darn, press with a warm flat-iron.

"Also teach her to patch her own underclothes. Cut out the worn ragged parts, put on a patch, baste neatly the edges both of patch and garment, then have her hem down both edges carefully.

"If you have but one child, and she is not fond of work, borrow your friend's little girl, and give her the same instruction that you do your own child, and you will be doing an excellent thing for both—remembering that you are forming habits of neatness and economy that will follow them through life, thereby making of them better wives and mothers, and carrying out the Bible injunction, 'that our daughters may be as corner-stones, polished after the similitude of a palace.'"

It is quite possible that scientific teachers of sewing, accustomed to the wonderful "thimble drill" of the Board Schools, would not think very highly of the method of teaching recommended by Mrs. Curd. Nevertheless, this lady's remarks will be useful if they make mothers who cannot get scientific teaching in needlework for their girls, realise that if girls are to know how to sew, pains must be taken to give them a practical training in sewing whilst they are children. Mothers and fathers are apt to be a little unfair to girls in this respect. They blame the girls because they cannot sew, and speak as if it were a girl's duty to pick up a knowledge of sewing. This is somewhat unreasonable. According to the educational arrangements of the present day, the chances are that if a girl cannot sew before she is thirteen years of age she will never be an accomplished seamstress.

Money. — Another piece of practical training which fathers and mothers ought to give to their boys and girls is training in the management of money. Very often it happens that in families where economy is the rule the young people have no notion of the prices of things, and of how to spend money wisely, and the consequence is that if they are left to their own guidance, they find themselves very speedily in difficulties. If they continue in this state of ignorance until they have homes of their own, they either have to learn the painful lessons of experience, or, if well to do, they waste their substance and become the dupes of unprincipled dealers.

The only way to give young people judgment and economy in money matters is to let them have the control of a certain sum, which is to be devoted to

necessaries for themselves, which necessaries they will have to dispense with if they spend the money foolishly. Some mothers, in order to train their children in this direction, give quite young children, of ten or twelve years of age, certain household duties to perform, and pay them weekly wages for the performance of the same. With this wage they are then expected to buy their own stockings or their own gloves, and to keep themselves well supplied with raiment of the sort specified. If, when necessary purchases have been made, a surplus remains, this surplus is regarded as pocket-money; thus the amount of pocket-money possessed is determined by the thrift of the child. The thought which leads to the adoption of this plan is kindly and well intentioned without doubt, but its wisdom is very questionable. It is a mistake to bring up young people to think that home-tasks are to be paid for; they ought to be done as a duty. It is best therefore to say that home-tasks are to be done for love, and to give an allowance separately. In any case, however, parents should be particular—whether they give an allowance, or pay a wage—to give a sum which will leave a sufficient surplus when reasonable wants have been supplied. Affectionate parents would be sorry to see children made anxious about money matters. Yet it is a cruel thing to leave children entirely ignorant of knowledge of this kind. Lord Lytton once said “that if Heaven allotted to each man seven guardian angels, five of them ought to be hovering night and day over his pockets, for the management of money is in much the management of one’s self.” Ruskin says: “Twenty people can make money for one who can use it;” and another writer says: “Care of money means care of the instrument that procures some of the best ends in life.” By paying a little attention to the subject, it is quite easy to make well-disposed children thrifty without being mean; and it is scarcely possible to exaggerate the value of the training thus given.

We have all heard the witty saying of Oliver Wendell Holmes: “There are people who think everything may be done if the doer, be he educator or physician, be only called ‘in season.’” The people referred to are mistaken, without doubt. Nevertheless, we hold firmly that childhood is the season for practical training, and that the home is the place where that training should be carried on; and if parents could be convinced of this also, and in good time were to take steps to supply physical and practical training, their children would be better fitted to meet the emergencies of life, and there would be fewer failures amongst us than there are.

Moral and Religious Training.—The poet Goethe, the greatest of German writers, once wrote

a story, the subject of which was education. Much of this book seems very strange, because opposed to English ideas, and there is much of it with which it is impossible to sympathise; much also there is of great interest, and full of ideas worth remembering. The hero of this story, Wilhelm Meister, was very desirous of placing his son in a good school, and at last was recommended to one which promised to be of great excellence, and which was said to be a Pedagogic Utopia. In company with his son, Wilhelm paid a visit to the province in which this school was situated. As he drew near he noticed a number of children working in a field, and preparing for a happy harvest. Soon a stranger, who proved to be the overseer, entered this field, and on seeing him all the children, no matter how they were employed, laid down their work, and turned with singular yet diverse gestures towards him. The youngest laid their arms crosswise over their breasts, and looked cheerfully up to the sky; those of middle size held their hands on their backs, and looked smiling on the ground; the eldest stood with a frank and spirited air, their arms ever stretched down; they turned their heads to the right, and formed themselves into a line.

“What is the meaning of these postures?” said Wilhelm.

“I must not explain it,” said the overseer. “To do so belongs to a higher quarter. I may tell you, however, that these ceremonies are not mere grimaces; they are of the highest import. I believe, however, that you will not leave us without being allowed to understand them.”

After a time Wilhelm was introduced to the three chiefs of the school, and by them the desired information was given as follows:—

“Well-formed, healthy children,” said the three, “bring much into the world along with them. Nature has given to each whatever he requires for time and duration; to unfold this is our duty: often it unfolds itself better of its own accord. One thing there is, however, which no child brings into the world with him, and yet it is on this one thing that all depends for making man in every point a man. If you know what this thing is, speak it out.”

Wilhelm shook his head.

Then the three, after a suitable pause, exclaimed, “*Reverence!*”

Wilhelm seemed to hesitate.

“*Reverence!*” cried they a second time. “All want it—perhaps you yourself. Three kinds of gestures you have seen; and we inculcate a three-fold reverence, which, when commingled and formed into one whole, attains its highest force and effect. The first is reverence for what is above us. That posture, the arms crossed over the breast, the look

turned joyfully towards heaven, that is what we have enjoined on young children, requiring from them thereby a testimony that there is a God above, who images Himself and reveals Himself in parents, teachers, superiors. Then comes the second: reverence for what is under us. Those hands folded over the back, and, as it were, tied together, that down-turned smiling look, announce that we are to regard the earth with attention and cheerfulness; from the bounty of the earth we are nourished; the earth affords unutterable joys, but disproportionate sorrows she also brings us. Should one of our children do himself eternal hurt, blameably or blamelessly; should others hurt him, accidentally or purposely; should involuntary matter do him hurt, let him well consider it—for such dangers will attend him all his days. The third reverence is reverence for his equals. When the instruction conveyed has produced sufficient influence on our pupil, we bid him gather courage, and, turning to his comrades, range himself along with them. Now at last he stands forth frank and bold, not selfishly isolated; only in combination with his equals does he front the world."

Another passage in the same book runs thus:—"Let no one think that he can conquer the first impressions of his youth. If he has grown up in enviable freedom, surrounded with beautiful and noble objects, in constant intercourse with worthy men; if his masters have taught him what he first needed to know for comprehending more easily what followed; if he has never learned anything which he requires to unlearn, then such a one will lead a purer, more perfect, and happier life than another man who has wasted the force of his youth in opposition and error."

If it is true that children do not naturally possess reverence, although the possession of reverence is "the one thing on which all depends for making man in every point a man," and also that "no one can conquer first impressions," how important it is that the sense of reverence should be communicated in childhood! To a large extent religion is made up of reverence and trust; and "religious education," the most important of all branches of education, consists in promoting the growth of reverence and trust in the heart of the child. The result aimed at is so vital and so sacred, and also requires to be so well adapted to individual needs, that it would be presumptuous for a writer in a book of this kind to attempt to lay down rules as to how or by what means this religious education should be imparted. This secret every parent, and especially every mother, must discover for herself. She must choose her opportunities; take occasion when the heart of the child is softened, and gentle feeling has been aroused,

to drop in the seeds of truth, nourishing them with tears and prayers, and watching lest they should be destroyed. It is the mother who should be the guardian of religion in the heart of a child, and outsiders who meddle with her work with the idea of guiding her, would very probably do infinite harm. Nevertheless, there are two or three mistakes to which even the most conscientious and earnest parents are liable, and these it will perhaps be useful to point out, because to know a few of the pitfalls into which we may stumble must be helpful to all.

Ignorance of Servants.—It is a mistake for parents who realise the importance of religious instruction, and who desire to train up their children in the right way, to permit servants, of whose state of mind and feeling they are ignorant, to talk to the little ones of religion. Very often in "serious" families, where religion is a chief part of the life of the household, nursemaids and other domestics feel that they are entering into the spirit of their employers if they introduce the name of God on every occasion, in season and out of season, making the sacred name a constant subject of discussion. Thus servants will sometimes give most amazing representations of doctrines and of the Divine character and dealings—representations which, if the mother knew they were being set before her little ones, would fill her mind with distress. Mothers little know how usual it is for children to be told "If you do so-and-so" (so-and-so being some trifling act which suits the convenience of the speaker), "God will love you." Worse than this, but quite as common, is the remark, "You are a naughty child, and God won't love you." How wicked these remarks are!—at least, they would be wicked if they were not uttered in ignorance; and how they are calculated to destroy the impressions which the mother would wish to produce! Unless the nurse is a person of whose sympathy and wise judgment she is thoroughly assured, a mother is fully justified in forbidding the slightest reference to religious subjects being made by any one excepting herself.

Religious Impressions and Habits.—It is a mistake even for a mother to make references to religious topics common and a matter of course, by speaking of them all day long, and by dragging them into everything. Rather should they be considered as sacred, and kept from the public eye. When children are encouraged to talk of their religious feelings, and approved for being pious and good, they are apt to exaggerate their feelings, and thus unconsciously almost they become hypocrites. This condition is most disastrous. A

teacher of wide experience amongst children, the Rev. Dr. Abbott, of the City of London School, says:—"A child who gushes about religious matters generally turns out badly, and it is this type of gushing creature which goes far to justify the proverb, 'The greater the saint, the greater the sinner.'"

Usually it is found that the very best time for making religious impressions upon a child is at the time of evening prayer. Whenever it is possible, the mother should herself form the habit of hearing her little ones say their evening prayers. A few quiet, loving, solemn words uttered then will produce a most powerful impression on the child's mind, and will send him to sleep composed and cheerful, making him feel that his mother's love is a part of the Divine love which fills the universe, and which draws "the curtain of darkness around us, that the great human family may sleep in peace." Sometimes well-meaning parents urge their children at the time of evening prayer to examine themselves, and confess their faults. The proceeding, however, cannot be said to be a wise one. Except in the case of serious and known ill-conduct during the day, a child's attention should be drawn away from himself, instead of towards himself; and there is the same danger associated with nightly self-examination that is associated with speaking constantly on religious topics; it tends to exaggeration, and leads a child to think he is virtuous if he makes himself out to be worse than he is. This may be acknowledged, yet still it would be found that if a child before settling to sleep showed a disposition to confide in his mother, there would be no reason why the mother should not accept the confidence. The time of evening prayer is an excellent time for kissing and making friends, and if a child has been naughty during the day, the discovery that his naughtiness has made no difference in his mother's love, is a sweet influence which will tend to make him affectionate and gentle.

It is a mistake to permit children to pray for all sorts of things, or to go through long elaborate utterances when praying, which are simply repeated as a form. A few simple words coming from the heart are more seemly and more helpful than any number of vain repetitions. There can be no surer way of destroying the reverence which ought to be associated with prayer, than to permit the evening petition to be an occasion for smartness, by encouraging a child to utter petitions which may serve as a joke for the family. A child who sees his prayer made a subject for laughter (and children are quicker than we know to read the feeling and opinion of their elders) is very likely to grow up without faith in the efficacy of prayer.

The habit which prevails in so many families of saying grace before meat is very often productive of harm to children, because it is made too much a matter of form. It is right, of course, that a child should be taught to be thankful for his food, yet surely not for food more than for the other blessings of his lot. Charles Lamb once said:—"I own that I am disposed to say grace upon twenty other occasions in the course of the day besides my dinner. I want a form for setting out upon a pleasant walk, for a moonlight ramble, for a friendly meeting, or a solved problem. Why have we no grace for books, those spiritual repasts—a grace before *Milton*—a grace before *Shakespeare*—a devotional exercise proper to be said before reading the *Fairy Queen*?" We are irresistibly reminded of this saying, when we hear a grace mumbled or gabbled without sense or reason. If in saying grace a feeling of reverence and sincerity can be maintained, the custom will undoubtedly serve to make children and their elders realise their dependence on an Unseen Power; but if the reverence and sincerity are absent, the habit of saying grace is a mockery, and does more harm than good.

Bible Lessons.—Many thoughtful people in these days have a notion that it is unwise to give children Bible lessons, on the ground that the Bible contains matter unsuited to the comprehension and the capacity of children—matter which needs explanation, matter which gives rise to controversy; and they think that children should wait until they are older before they study it. Others, equally unwise, treat the Bible as if it were a sort of fetish, and as if its chapters and verses would act like a charm to keep away evil. The individuals who act thus diversely are all agreed that the generation which grows up ignorant of the Bible will suffer an incalculable loss. It is an inestimable advantage for children to be familiar with the Bible, and that they should gain a love for it founded on reverence and strengthened by association. Yet unless they gain this familiarity in childhood, the chances are a thousand to one that they will never gain it at all. If during childhood they learn to repeat the words of the Bible, and are made acquainted with its stories, the recollection will return to them in after-years again and again, and will never fall into forgetfulness. It is a cruel thing when a parent does not secure this heritage for his children whilst they are quite young. No after-study can compensate for the loss thus sustained.

Mothers who think Bible lessons are unsuited to the capacity of children, should recollect that children are less critical than their elders, and that they accept without question much that we should

find difficult. It is a pity to suggest difficulties to a little child, or to foster in him the critical spirit. Parts of the Bible there are, undoubtedly, which are unfit for juvenile reading; but it would be easy to leave them out; and they constitute a trivial proportion of the whole. Mothers, on the other hand, who treat the Bible as if every single line, by itself, were some sort of a charm, do not give it fair play. They are preparing the way for their children to cast it aside, when as men and women they discover that this way of regarding it is unreasonable. They would do better if they would treat the Bible as a book requiring, as well as deserving, real and honest study to find out its meaning, and thoughtful consideration before judging of the true relation of that meaning to the practical ordering of daily life. Of this they may be quite sure—that the more light they can throw upon its pages, the more its beauties will be made evident, and the more help it will give.

Parents make a mistake when they try to explain to young children difficult doctrines of religious faith, and to make the little ones understand dogmas. In doing this, they forget that religion is not acceptance of creed; it is an attitude of the spirit, an inward temper. It consists in the consciousness of God's presence, the habitual and loving sense of duty towards Him, and the reverent acceptance of His will. This attitude the parents may assist a child to take; this temper they may help to implant; this consciousness they may strengthen; and this submission they may foster. But if they begin to attempt to distinguish between articles of belief, they open the way to doubt and disbelief.

Moral Training.—So much for religious teaching. We now come to teaching children morals or the rules of conduct. Parents are often in doubt as to the means they should employ in order to train their children on points of morals. The first thing they have to remember is that right conduct has to be built up gradually; they ought not to expect too much of the child. Right conduct is produced chiefly by example, also by precept; it is the result of obedience to conscience, and of consideration for others. But we cannot expect these influences to be felt in a day or a year; they will permeate the character slowly.

Concerning the details of right conduct, such as truthfulness, obedience, &c., a few suggestions have been given in another part of this work. (*See* Vol. I., p. 213.) One word, however, may be added about rewards and punishments. In the home, rewards for right conduct are a mistake. Some parents accustom themselves to say to their children, "If you do so-and-so I will give you a book;" or, "I will buy you

some sweets." With regard to the sweets, we may say that it is a pity to connect the idea of gratification in the child's mind with indulgence in eating, and especially with indulgence in pleasures which cause toothache. There is, however, also an objection to all reward offered in this way. A child ought to fulfil his task as a matter of course, because it is his duty, and because, if he does not, those whom he loves will be grieved and pained. If he is taught to do right only for reward, when the reward ceases the right conduct may cease also; and, after all, the aim of discipline is to produce a being who can govern himself.

As with rewards, so with punishments; the fewer there are of either, the better regulated is the household. Many will disagree with this opinion. Mere theorists in education are generally in favour of punishment; they say that it is necessary, and that children cannot be brought up without it. Occasionally this may be true; instances may occur in which punishment is called for. But let those who advocate "strict discipline" bring in mental review the families of their acquaintance where punishment has been dealt out freely. Is it not the case that the children of those families have gone wrong? Either their finer feelings have been destroyed, and they have become brutalised and hard; or, when the curb has been removed, they have gone in the direction which was forbidden. A wise teacher once said: "Men often speak of breaking the will of a child; but it seems to me that they had better break his neck. The will needs regulating and guiding, not destroying. I should as soon think of breaking the legs of a horse in training him as a child's will. I would discipline and develop it into harmonious proportions. I never yet heard of a will in itself too strong, more than of an arm too mighty, or a mind too comprehensive in its grasp, too powerful in its hold. The instruction of children should be such as to animate, inspire, and train; but not to hew, cut, and carve. I would always treat a child as a live tree which was to be helped to grow, never as dry dead timber to be carved into this or that shape, and to have certain mouldings grooved upon it. A live tree, and not dead timber, is every little child."

The truth is, that the perfection of the relations between parents and children in the home is one of sympathy. Anything that diminishes sympathy, therefore, is an evil. Of course it would not be reasonable to expect that a parent of middle age could keep up thorough friendship with the young children of the house. And yet there might be such a sympathy between the two as would establish a workable equality. But punishment, and especially physical punishment, is a degradation; it destroys confidence and friendship; it ought to be the parents'

"last resource," and the parent who trusts to it trusts to the lowest kind of influence available. The home that requires physical pain to keep a child in order is a home where the parents have not discerned the worth of the child, or realised that the child's

mind can be cultivated by other means; and the good conduct which is produced by physical pain is not very likely to continue when the individual is brought face to face with the temptations and trials of life.

FESTIVE DECORATIONS.

THERE are occasions in life that call for a certain amount of festive decoration in our homes—soft hangings, banks of flowers, extra draperies, and arrangements of foliage and plants, that come as the veil of poesy over the hard facts of every-day existence. Sometimes we want to brighten up an otherwise bare room for a dance, or to beautify the ordinary sitting-rooms for a dinner party or for a wedding, and in every way to put the best foot foremost, and hide all traces of the worn, soiled, or sordid. In London, Manchester, and other large towns, it is often done by a professional decorator, male or female, who brings the flowers and other materials; but in country places, or "far from the madding crowd," the members of a family find it a comparatively easy task to do it for themselves. The inhabitants of Queensland, where the chief shrub is the exquisite white gardenia, with its perfumed blossom and glossy laurel-like foliage, say nothing is easier than to decorate their rooms; and so, too, say the dwellers in southern countries and lands where the orange-tree grows, and flowers, fruit, and foliage all abound together.

There was a time—not so very long ago, either—when pink glazed lining, and white lace and muslin, and plenty of pink and white tissue-paper roses, were considered the height of taste in the way of decoration for bazaar and ball. As fashions change, it is quite likely that the same idea may come in again, though it is now called "toilette table" and "pin-cushiony." There never was a better or simpler or easier way of hiding the inequalities of bare plastered walls, or of converting an empty school-room into a festive scene. The mere expedient of fixing a slight upright of deal in each corner of the room, another or two at intervals on the walls, and nailing laths all round the top, close to the ceiling, gave the opportunity of tacking on the shining glazed lining that, because the dust shook off it so readily, did duty over and over again, fluting the coarse muslin or lace, or hanging the cheap curtains over it, and fastening a wreath of evergreens, relieved by the pink and white paper roses, right along the top, close under the ceiling, where it covered many a deficiency, and made a pretty

finish to the whole. Very inartistic it all was, no doubt; but the dance was just as enjoyable as it is now that we have the walls draped with "Liberty" silks, and pyramids of tropical palms in the corners.

Paper Roses.—For the benefit of such of our readers as may want to make the old-fashioned paper roses, the *modus operandi* is as follows:—Cut the pink or white tissue-paper into strips, the long way of the sheets, not less than an inch and a half wide. Double each strip short four or six times, and with a sharp pair of scissors cut one edge into rounded scallops about an inch across. In this manner much time is saved, as it would take a long while to scallop the whole length of each strip in only one thickness of tissue. Unfold each strip, and run along the straight edge with a long needle and coarsish cotton. Now bend a piece of wire into a loop at the end, so as to avoid a sharp point, cover it with two or three thicknesses of pink or white paper, tie tightly down, and then draw up the edge of the tissue through which the cotton runs, so as to erinkle it, and roll it round this centre, fastening all tightly down; spread out the petals—i.e., the scalloped part—with the fingers, and the rose is finished. Many people merely regulate the fulness by making a fold here and there with the fingers and binding all in with wire; but to do this will require much skill and practice, and the needle and thread is really the most satisfactory in a general way. The best wire is that which is coated with cotton, such as the old-fashioned ribbon and bonnet wire, because it gives a little more hold to the paper than wire that is bare and slippery. A very pretty way of arranging these roses in a long low-ceilinged room, where neatness tells, is to make up small bunches of box, ilex, yew, holly, or any small-leaved evergreens, turning two bunches the reverse way, so that the stalks meet in the middle, wiring them firmly together, and covering the bare stalks with a rose which is wired in, as is shown in Fig. 1. These bunches are extremely light, and a couple of good-sized pins serve to fasten each on to the soft deal lath that should run round the top of the room.

Another method of making paper roses is to cut

out a quantity of rounds of tissue paper just about the size of the top of a wine-glass. Place seven of them evenly over each other, and stitch firmly together, if they are wanted for a flat wreath, or, if stalks are required, put a length of wire completely through the middle, as if it were a stitch, and twist the two ends together at the back to form a firm stalk. First pull up the top round, and crumple it all together to form the centre of the rose and hide the stitches. Then pull up the second round, and the next, and the next, till all are in place, and crumple each one as you go along into the sem-

are many of them a great deal more costly; and the Como and other rugs, with their horizontal stripes, are effective and cheap for ornamental purposes, though not much can be said for their power of keeping out cold.

Bunting.—Flags add very much to almost every kind of decoration, whether for a large room, a marquee, a triumphal arch, or merely to hang out of window. Any one who lives near a dockyard, and has friends among the naval officers, can often get the loan of a considerable number of flags; but in a



Fig. 1.—PAPER ROSES.

blance of rose-leaves, and at a distance they do duty very fairly for the queen of flowers. It is an extra refinement to slightly scallop the rounds, and place them so that the scallops come alternately.

Curtains.—Many country housekeepers make, or have made, a practice of buying up a quantity of white curtains at a sale, or whenever they could get them cheap—and very cheap they often are on such occasions, especially the Nottingham lace ones that have succeeded muslin and leno, and are so easily washed and got up wherever there is grass to stretch them out on. Wide furniture lace, too, is extremely cheap by the yard, and goes along the top of a room, over the windows, &c.; while it often smartens up dark damask or other curtains for the nonce to run a row of it down each side.

The draperies of the day are the soft Pongee silks, which can be had for these purposes, costing as little as 1s. 0½d. a yard, though they go up in point of quality to about 3s. 6d. The art serges are also much used, and as they are only 1s. 11d. a yard, double width, they are not extravagant, considering the tendency of everything at the present time.

The art muslins, again, both plain and printed, are inexpensive (about 3d. and 6d. a yard), though there

general way it is best to hire them by the dozen or gross from such firms as Edgington or Unite. They look very gay indeed, and a trophy of flags is a very nice way of disposing them on a flat surface. The canvas, or "bunting," of which they are made hangs as nothing else ever does, and is extremely decorative. The sight of a room decorated by sailors for a dance is worth yards of description, for Jack knows how to make the best of his single flags or codes of signals better than any one. Paper flags or bannerets do duty sometimes indoors, but they are small, and only fit to supplement some other kind of ornamentation. If any one has a fancy to buy bunting and make their own flags, the work must be extremely strong and neat, each piece being *hemmed* on to the other—not run and felled, which would seem to most women the natural way of doing it.

Military Trophies.—All who have ever been to a military or a volunteer ball will remember the glittering devices in which ramrods, swords, and other arms are arranged on the walls. Such trophies are of course works of time and skill; but they give ideas for the arrangement of other things. An old piece of armour of almost any kind may be used for decoration, and old shields especially. Pampas grass is capable of being arranged much as bayonets very

frequently are—that is to say, when there is plenty of it.

Backgrounds.—Red baize in a wide width is invaluable in amateur decoration. Thrown over quite a rough wooden erection or contrivance, and adorned with greenery, it makes a platform for musicians. The same holds good of the cheap striped curtains that have so much cotton in them, and fade so soon in sunny windows. The owners feel very much annoyed at the shabby appearance they so rapidly present, and the fact that they will not dye only adds to it; but thrown with the best side outwards over any structure that it is desirable to conceal, they are very decorative. Moss, which is often so very useful, ought to have a background of green glazed lining or baize when arranged in letters or devices, as this prevents a poor thin look, produced by white or even by empty space showing through. Turkey twill is often invaluable for backgrounds, and being very cheap, and always capable of being washed clean and smoothed out, it is an economical material to use. There are also situations where a plain paper of a certain tint—green, red, or blue—answers every background purpose at very little expense.

Floral Decoration.—The prevailing fashion of using quantities of wild flowers whenever they are in season has a dowdy look, unless considerable care is exercised. Sheaves of the lilac-tinted blossoms commonly called “milkmaids,” bundles of cowslips, &c., look exceedingly well in jars and baskets; but when heaped on chimney-pieces, or window-sills, or empty fireplaces, they speedily wither, and make, comparatively speaking, no show at all. But if the wild flowers are accompanied by a plentiful supply of moss, they answer these kinds of purposes well, and are not difficult to arrange. The moss, however, should be gathered judiciously, not torn up in scraps and jumbled together in a hamper with quantities of mould, which in the course of a journey becomes pretty evenly diffused all over the green surface. Any good gardener in the country accustomed to gather moss wherewith to beautify the pot plants he sends indoors, gets it in large pieces—almost sheets—without any mould adhering to it, out of wood or hedgerow; and it is just as easy to do it the right as the wrong way.

Many ladies in society whose sympathies are with the Primrose League make a point of using primroses as much as possible for festive decorations as long as they are in bloom; and two principal modes of utilising them seem to be in favour, over and above the somewhat slovenly one of making a mound of palest yellow tissue-paper, and throwing

the blossoms over it pell-mell, turning as many as possible of them face upward by hand afterwards. One is to have a rounded framework of brass wire (such as Fig. 2) or perforated zinc made to fit over



Fig. 2.

the mantel-piece, fireplace, or any other spot it is desirable to decorate, and inserting into each interstice as many primrose stalks as can be induced to go in. This produces a very even-looking mass of them, and may be made to look very effective, as in Fig. 3. A still prettier way is to have a light wooden or wire foundation, or even one of the afore-mentioned mounds of green paper, and cover it with moss, arranging in this moss any primrose roots that come to hand, or bunches of blossoms surrounded with leaves, which look something like the roots, but have not destroyed the possibility of future crops of blossom.

Sometimes when primroses have been ruthlessly gathered in one spot for several seasons in succession, the roots mysteriously depart—

“Fold their tents like the Arabs,
And as silently steal away;”—

and, again, when plucked in more discriminating fashion, the same patches of roots seem to blossom more freely with every succeeding spring. There is a right and a wrong method of packing them, too. The best plan is for each handful of flowers, with or without a few leaves, to be tied up as they are gathered, for this saves bruising the petals, as well as fading them, by extra handling; and unless all can be packed up and sent off at once, these bunches should be placed in water, pie-dishes being perhaps better than anything else for the purpose, taking great care that only the stems are immersed. If a hamper is used, it should have a layer of moss at the bottom, and over this a clean newspaper, on which the bunches of primroses must be packed pretty close together, then another newspaper and another layer of bunches, and so on. If a night journey can be managed, so much the better; but whether despatched by night or day, primroses so packed arrive cool, fresh, sweet, and perfectly clean and unblemished.

In packing garden or hothouse flowers, gardeners usually put wadding round the blossoms, and there is a certain amount of art required in laying the flowers at either end of the box or basket, with the stems towards the centre. This not only prevents

the flowers from bruising one another, but enables many more to be packed. Authorities differ as to the desirability of excluding the air from cut-flowers, and probably it is a question of temperature; warm air does not hurt them, while cold air turns them brown. Roses when used for decoration are generally placed, with their foliage, in some kind of framework, either of wood or wire, or with each stalk in a tiny green tube of water in a moss-covered frame, such as may be seen at flower-shows. The same kind of treatment is applicable to almost every flower.

well placed in stripes or triplets; and when ox-eye daisies are plentiful, they look lovely dotted about with a leaf or two under them, so as to show them off.

Table Decoration.—This subject has been so fully dealt with in a previous volume, that only a few supplementary remarks need be made here. Any one in the country who has a bed of Russian violets and a few frames of Neapolitans is amply provided for in this way from October to April, even if no other supply of flowers is available. The best way of utilising them to the greatest advantage is to

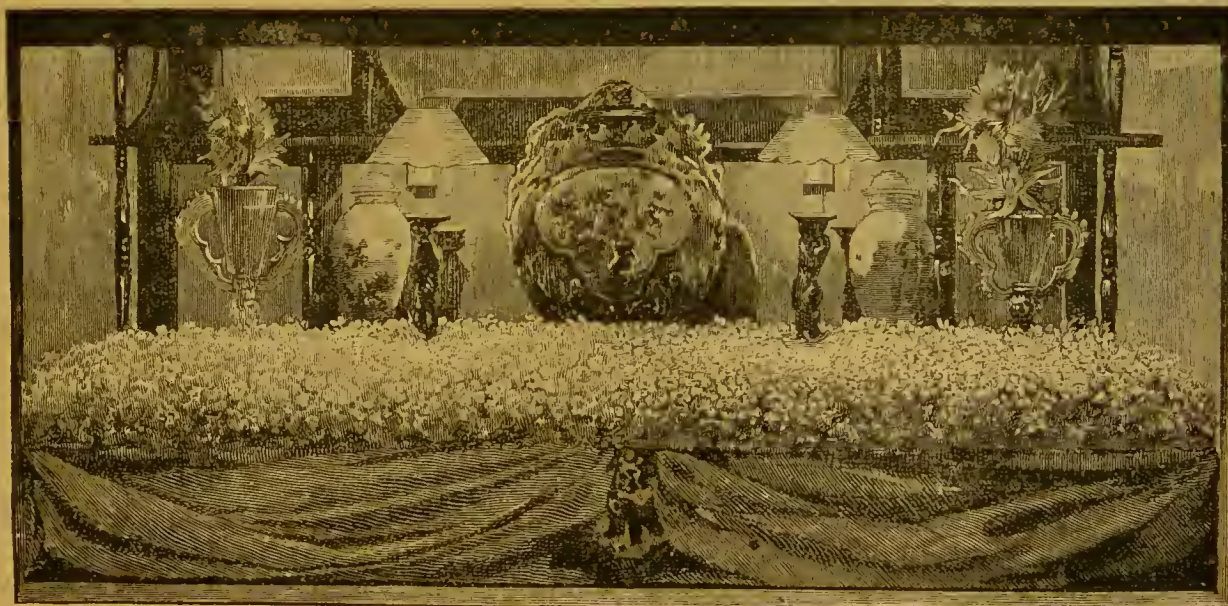


Fig. 3.—PRIMROSE DECORATION OF MANTELPIECE.

Fireplace Screens.—With the advent of tiled grates and hearths, and slow-combustion stoves, which are ornamental in themselves, it has become the fashion in modern days merely to hide the grate, when a fire is not needed, with a small screen, or perhaps to stand a large palm in front of it; or, where there is a good garden, an ample “beaupot,” or perhaps two. Again, a sheet of mirror is sometimes made to fit into the entire space of the opening, when a fender is formed of virgin cork nailed on a wooden frame, the space within being filled up with ferns or other pot-plants. But there always will be some households where these modes are too costly, or the grates are not suited to them, and whose rulers still have a prejudice in favour of the “ornament for your fire-stove” of their youth. A pretty and tasteful compromise between the two styles is to fill grate and fender with Manilla hemp, and, where possible, to arrange fresh leaves on them every morning. Ivy-leaves, rose-leaves, or bramble-leaves look extremely

have a number of glass plates and shallow dishes. Each salt-cellar should stand in a glass plate full of violets; and if they are arranged in rows of double white, or the light Neapolitans outside and dark purple Russians in the centre, the effect is very good; or where the wild white violets are obtainable, that seem utterly unknown in the London market, they answer the same purpose. A well-known lady who recently died was quite famous in her winter seaside home for the tazzas of violets that adorned her luncheon-table. The long and semicircular glass trays, that can be arranged to decorate a large or a small table, are especially adapted for violets, but the filling of them requires a considerable amount of practice, whatever flowers may be used.

At ball suppers, wedding breakfasts, &c., it is very much the fashion to have a number of small round, oval, or oblong tables, and each must have a small central ornament of flowers, whether supplemented by specimen glasses or no. We have seen this

managed at very small expenso in late April by the employment of large saucers filled with moss, in which the coral roots of blooming wood-sorrel and dog-violets appeared to be growing, with the addition of small ivy and other woodland leaves, that "looked as if they grew there." Wood-sorrel is a most fairy-like white blossom, and is especially suited to such an occasion.

The fancy of the day is to use all receptacles of white glass or china in the form of baskets, plateaux, &c., so that the view across the table is not intercepted in any way, while flowers of any colour can be used. Many of these are kept planted by the gardener with lycopodiums and small ferns, among which fresh blossoms are stuck when required. This supposes either the use of a double set, or else that the baskets, &c., are removed to a greenhouse after dinner every night; for it must be remembered that lycopodium will only flourish under glass. Some of the stands serve double duty, as they are planted with ferns, &c., below, and form fruit-dishes above, but very slightly raised and well within the shadow of the fronds. They also contain a very small quantity of fruit.

Festive Lights.—Nothing marks festive decoration, whether in or out of doors, more than the lights. For a tent or marquee, or in a garden, there is nothing to equal the Chinese and Japanese lanterns that are now so inexpensive, and look so gaudily yet fashionably gay. The latest development of them is very transparent, and made from the inner skin of the bamboo, with figures and landscapes cleverly depicted on them; but they are as distinctly Oriental in appearance as their predecessors. Most of these lanterns are provided with sockets for burning candles; but of late a good many have been made fitted with small paraffin lamps; they are, however, hardly so safe as the less brilliant candles. Tiny coloured glasses, with a little oil and a floating wick in each, are often used for outlining paths or flower-beds, and are extremely cheap (something like a half-penny each when a quantity is taken). Where there is gas, it is now very usual to run a gas-pipe round, fitted with small nozzles, each of which receives a coloured glass. This saves a great deal of mess and much labour, the gas being turned on or off from a good many at a time by a single tap.

Pink paper shades, plain or shaded, for candles and lamps, are generally very cheap at Christmas-time, when all kinds of shops indulge in sales, and a liberal use of them produces an extremely festive effect, though they are not conducive to the kind of light required by workers or students. Shaded yellow ones, from lemon to orange, look next best; and during the last few months very simple shades, that look like crimped or crumpled tissue-paper, have come in. The great thing is to have a large number of them, all in a single tint, such as amber, rose, sea-green, or pale mauve. When these can be arranged with decorations to match—as, for instance, mauve shades for the lamps and candles on a dinner-table adorned with violets—the effect is extremely refined.

No kind of decorative lighting for a table exceeds the use of Fairy Lights, which may be described as glorified and magnified night-lights. They look extremely well when placed among ferns and flowers, and the best for this purpose are made with a circular glass tray for flowers, or to be planted with ferns or lycopodium. There is a great demand just now for very low upright silver or plated candlesticks that do not stand more than six inches high—four, six, ten, or twelve of them, according to the size of the table, being used with wax candles and coloured shades, while at each corner there is a small silver lamp with a similar shade.

At a summer dance, where a balcony, conservatories, summer-houses, and gardens can be utilised, a great variety of lights can be used, and coloured fires; while lengths of magnesium wire, burnt in judiciously-selected spots, often completely transfigure places that at ordinary moments are extremely commonplace.

Probably, when electric lighting becomes general, our schemes of decorative illumination will undergo a change. There will no longer be any fear of setting fire to anything, nor will draughts of air have any effect on the electric spark; but, on the other hand, care will have to be taken to avoid contact with the conducting wire, and the fierceness of the white light will require much toning down and modifying by means of shades. It will, no doubt, be a case of *autres temps, autres mœurs* rather liberally construed, and applied practically in ways which we have yet to learn.

RECORD OF TREATMENT, EXTRACTION, REPAIR, etc.

Pressmark:

Binding Ref No: 3018

Microfilm No:

Date	Particulars
MARCH 98	Chemical Treatment
	Fumigation
	Deacidification Renaissance 1 & 2
	Lamination
	Solvents
	Leather Treatment
	Adhesives
	Remarks

